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EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, March 20, 1903.

RABIES is an inexhaustible subject and investigations on any point relating to it are always numerous and interesting. I will consider some of them, which have attracted my attention lately, and which, of course, I must give our readers.

First among them we have a contribution to the *etiology*, which was presented by Mr. A. Rabiaux at the Société de Biologie. The author asked himself this question: Mixed saliva being virulent, is this virulence common to each of the salivary secretions or proper to one of them? In collaboration with Mr. Guinard, he collected the saliva of the sub-maxillary gland through a fistula of Wharton's canal, from seven dogs in full rabid development, and from five others before the apparition of the first symptoms of the disease. The virulence was then tested by intra-cranian or intra-ocular inoculation to rabbits. The saliva proved always virulent when coming from the mad dogs; with the others it was virulent four times out of five between two to four days before the apparition of the symptoms. This experiment, therefore, confirms those of Nocard and Roux with mixed saliva.

Then Rabiaux and Guinard experimented with the pancreatic juice; the virulence was there also demonstrated by positive results in three experiments.

Attempts to cultivate the rabid virus in various media have always failed; even those of culture in collodion-bags in the

peritoneum of rabbits have given no better results; more than that, the virulence had entirely disappeared from the contents of the bags after three or five weeks.

But if the French investigators have not succeeded in cultivating the microbe, Dr. F. Levy, of Pavia, has made lately two communications to the Academy of Médecine of Turin which are resumed in *Il Nuovo Ercolani* as follows: "Levy has made a bacteriological study of the tissues, has made cultures of the microbe that he has found and isolated, in various media, ærobie and anærobie; he has made experiments, and from the results he has obtained he concludes: that all his researches have confirmed the general opinion that rabies is a microbial disease; that it is due to the action of a microörganism ordinarily spherical in appearance, and which he proposes to call *Blastomyces* or *Saccaromyces aureus lyssæ*. The parasite penetrates by the way of the blood or of the nerves to reach the pia mater, the nutritive membrane of the nervous centres, arrives in the cerebral cavity, where the parasite settles itself, becomes nocive, and, being in anærobie surroundings, gives rise to a process of fermentation, and, among other changes, produces an eminently toxic gas, oxide of carbone, which gas acts immediately upon the bulbo-nervous centres and gives rise to carbossemoglobina, which is revealed by chemical as well as spectral examination." Let us wait!!

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But the last part of Dr. Levy's communication relates principally to the pathology of the disease, and that has brought me to notice the researches made on the pathological histology of rabies with fixed virus by Y. Manouelian, which I find resumed in the *Revue Générale*. He proposed to himself to find out if the lesions observed and described by Van Gehuchten and Nelis as existing in the cerebro-spinal ganglions of animals dead of street rabies, did exist also in the virus of fixed rabies. We know that the researches of Van Gehuchten and those more recent of Goebel were negative on that question. The observations of Manouelian seem to justify a different state of affairs,

and he affirms that the lesions described in street rabies exist also in rabies with fixed virus. In all the sections he has made, he has observed an entire destruction of a certain number of nervous cells by small neuronophage cells, and he has observed all the stages of invasion of the elements by the neuronophages; the vascular lesions existed also, under the form of perivascular nodules.

Let us, however, look at another side of the same question.

Those lesions of Van Gehuchten and Nelis, which called the attention of pathologists to the peripheric, cerebro-spinal and sympathetic ganglions in the diagnosis of rabies, have been confirmed by many other observers, and the general conclusions were soon accepted as being demonstrated that: Any dog, dead or killed, that presented lesions of the ganglions must be considered as rabid; that the absence of those lesions in animals prematurely killed does not authorize the declaration that they are immune from rabies. Rabiaux has taken up the subject, and in the *Journal of Zootechnie* records: In animals that have died because of rabies, lesions of ganglions were always observed; they were more or less masked, but always present; in animals killed during the development of the disease, the lesions may not exist, even in frequent cases. The rapidity in the apparition of the lesion varies much; they have been observed sometimes in dogs killed at the start of the disease, while they were missing in others, killed after the apparition of rabid symptoms; no analogous lesions were ever observed in the plexiform ganglions of dogs having died from any other diseases but rabies, although they may have exhibited symptomatic characters common to those of that disease.

And now comes the conclusion of a young pathologist, one who has made in the last few years his mark and taken rank among the first—Mr. H. Valli, of Alfort. He also made investigations, and, while he looked for the alterations that old dogs might present in their cerebro-spinal ganglions, he made comparison with the possible analogies that might exist with the lesions found in animals dead of rabies. He examined the plexi-

form ganglions of thirty-five dogs of all ages, dead of various affections, and failed to find in them the lesions of neuronophagy mentioned by some authors in man. He examined those of 30 dogs, incurable or old, between the ages of 14 and 20 years; all were free from rabies. In most of them, the third or the quarter of the capsules observed on a section of a plexiform ganglion had an unusual aspect. Some nervous cells are entirely destroyed; leucocytes fill the endothelial capsula which first contained the nervous cell; in others, the cell is still there, but has lost its chromatophilous elements; it is surrounded by macrophages, which are even sometimes found in the protoplasmic mass of the nervous element. The ganglionar structure itself is infiltrated with numerous leucocytes. Those lesions are very apparent, easy to analyze; they are the lesions of neuronophagy. Nothing in the previous condition of the animals from which those ganglions come can explain the presence of those lesions, which must necessarily be ascribed to a normal phagocytose of the nervous elements in aged animals.

It is a confirmation of the observations already made by others, and specially by Metchnikoff, on the part played by leucocytes in atrophied individuals.

"Besides," concludes Valli, "those senile lesions of neuronophagy resemble extremely the alterations of the plexiform ganglions of rabid dogs killed prematurely. The presence only in an aged dog suspected of rabies of the capsular lesions mentioned by Van Gehuchten and Nelis, does then justify, in the absence of other rabid signs, the conclusion that rabies was present."

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A few words now, to finish this general review, on the *immunization* with mixtures of rabid virus and antirabid serum. It is in the *Revue Vétérinaire de Toulouse* that I find a communication of Mr. A. Marie recorded: "It is known that the serum of mammalia neutralizes *in vitro* rabid virus; and that an emulsion of virulent bulb prepared in such serum is innocuous when inoculated in the brain of a rabbit. Mr. Marie has made

researches to find out if mixtures of fixed virus with antirabid serum have immunizing properties. He made inoculations under the skin and in the peritoneum of rabbits and guinea-pigs. Every time that the dose injected has been somewhat large, the animals have presented, after *one single* inoculation, an antirabid immunity which was manifested very rapidly. Indeed, the animals, inoculated by this method, were able to support the severe test of fixed virus or of street virus in the anterior chamber of the eye from the very day of the inoculation. However, all those vaccinated animals tested with *intra-cerebral* inoculation of either virus, fixed or street, took rabies, with the exception of two guinea-pigs which had received a very large dose (8 c.c.) in the peritoneum.

If one bears in mind, first, that it has never been possible to immunize animals against rabies by inoculation even of very large quantities of normal nervous substance; and, again, that the serum of animals not vaccinated has no destroying power on the fixed virus, and, finally, that the antirabid serum does not protect an animal against rabies, but only retards its evolution, one is justified to conclude that immunization by the method of Marie "is due to the union of the specific serum with the rabid substance." Experiments on a large number of dogs will decide the value of the process to the point of view of its practical application; but, nevertheless, the fact is now demonstrated that animals can be immunized by *one single* injection of fixed virus and antirabid serum mixed, a mixture which is harmless, as long as it can be injected into the brain without producing trouble.

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And, now, a positive record of antirabid inoculation, which is in the *Veterinariu*s and *Deutsche Thierärztl. Wochensch.* Two veterinary inspectors of Budapest write: In a lot of 47 colts, two presented at the same time the characteristic symptoms of rabies and died in a few days. Careful examination of the other animals brought out 7 which had on their bodies cicatrices which were considered as suspicious of contamination

by bites. This, however, could not be proved as certain. Two weeks later one of those seven died with rabies.

The 44 remaining colts were submitted to antirabid inoculations, with a virus prepared at the Pasteur Institute of Budapest. Three inoculations were made under the skin at intervals of five days first, then of two days. There was no hyperthermia or any other manifestation; the animals remained in perfect health. Since more than six months no new case of rabies has occurred.

This is the first time that antirabid inoculations have been used in veterinary practice; they show their preventive efficacy when made in proper time.

Why, then, did failure follow the case treated recently at the hospital of the New York-American Veterinary College?

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In my last chronicle, I made some remarks on an article which had appeared in one of the French veterinary journals. But to arm myself properly, in case of further needs, I must ask our friends in America to send me the necessary documents, viz.: each veterinary college one of her last catalogues and each veterinary society, local or State organization, one copy of their constitution and by-laws. I would also be much obliged if our friend Dr. Hoskins would give me the correct figure of the number of regular and irregular (if any) practitioners in Pennsylvania. All documents I ask for can be mailed to my address, 14 Ave. de l'Opera, Paris.

A. L.

MCGILL TO CLOSE ITS VETERINARY SCHOOL.

It is with deep regret that the REVIEW learns that this old and honored school—the Faculty of Comparative Medicine of McGill University, formerly the Montreal Veterinary College—has decided to disband, after almost forty years of devoted labors in the best interests of veterinary science. Founded away back in the sixties by Prof. Duncan McEachran, it has occupied an enviable position among the institutions of veterinary learning in America, and her graduates are among the very best mem-

bers of this profession. Prof. McEachran has maintained the school largely through his personal efforts and financial support, it never, we believe, having been self-supporting; but it ever held to the high standard which he established for it, preferring always quality to quantity. After this long service, the dean feels that he must lay down the burden which he has borne for so many years, and has tendered his resignation to the University. We reprint elsewhere an editorial from the Montreal *Daily Witness*, which urges and holds forth the hope that a small endowment may be secured, whereby the great work may be continued and enlarged, so as to constitute an agricultural school, in connection with McGill, thus conferring greater benefits upon the citizens of Canada, whose live-stock interests are enormous. We sincerely trust that the hope there expressed may be realized, as the veterinary profession of this country cannot afford to lose so valient a standard-bearer as this school has ever been; and Prof. McEachran's grand work in behalf of veterinary education should be perpetuated and immortalized by the creation of a permanently endowed school of veterinary medicine as a department of McGill University. Should, however, the effort now making, fail of realization, the school, and those who have labored so long and sacrificed so much for it, can feel confidence and satisfaction in the fact that it has done a noble work in having ever held to the highest standards and given to the *personnel* of veterinary medicine some of its most brilliant and honorable members.

THE HORSE SHOW SEASON.

What a great institution the horse show has become in this country. So numerous are they that it has been found necessary to issue a volume, like the *Racing Guide*, giving the names of the various associations, the dates of their exhibitions, and a list of the horses that have been exhibited, with their owners, winnings, etc. These equine exhibitions vary greatly in their magnitude and quality, from the grand collection of valuable animals which gather at Madison Square Garden to the

modest local display at the county fair. No city whose residents boast of fine horses (and what one does not?) is now regarded as meeting modern demands without its annual horse show. No event occurs which attracts greater attention in its locality, and there are none which add greater stimulus to the breeding of the best specimens of horses of different classes. We risk nothing when we assert that it is doing more to raise the quality of horses than any other single factor. The desire to win the coveted ribbons is the means of distributing the best types of harness and saddle horses, while the thoroughbred and the pony of the higher order are not overlooked, and the carriage-builder and the harness-maker are kept busy creating the finest quality of their productions. The show has probably done as much to advance the price of certain kinds of horses as any other single cause, and the great value of these animals makes them a typical patient for the veterinarian. Few gentlemen will now purchase such valuable property without the approval of his veterinary advisor, and when disabled or sick his services are sought without delay, and his attendance is not limited by the fear of "the bill."

Aside from this mercenary view of the horse show, it is a splendid institution, instilling and fostering a love for and familiarity with the noblest of the animal kingdom, creating a popularity for him that extends and resides with the man who first forms his acquaintance through the dictates of society.

The horse show has come to stay, and the veterinarian has much right to encourage and bless it.

ACTIVITY in veterinary legislation is shown all over the country. Each issue of the REVIEW records some advance action in one or more of the States. Now comes the news that the Minnesota State Veterinary Association has secured the enactment of an amendment to their veterinary practice act, which provides that, after six months, only graduates of recognized three-year schools may come before the Board for examination, and the examining fee has been raised from \$5 to \$25.

ORIGINAL ARTICLES.

HÆMORRHAGIC SEPTICÆMIA IN CATTLE.

BY S. D. BRIMHALL, V. M. D., DIRECTOR OF THE VETERINARY DEPARTMENT, MINNESOTA STATE BOARD OF HEALTH.

Read before the 39th Annual Meeting of the A. V. M. A., September, 1902.

In December, 1900, Dr. L. B. Wilson and the writer published in the *Journal of Comparative Medicine* a preliminary report on Hæmorrhagic Septicæmia in Cattle, and in January, 1901, the Minnesota State Board of Health published a more complete report as a bulletin by the same writers.

History of Previous Outbreaks.—Friedberger and Fröhner say, "This disease is not so recent as might be believed. * * * The terrible epizootic described in the *Veterinarian* in 1858, an epizootic which decimated the bovines and wild ruminants, was nothing else than the disease in question." In 1878 Bollinger described, under the name "Wild" and "Rinderseuche," an epizootic disease which killed 234 boars and 153 deer in the royal game preserves in the environs of Munich. After the plague in the parks had died out, the domestic cattle in the neighborhood began dying of the same or a very similar disease.

In 1885, Kitt studied an outbreak of an unknown epizootic disease of cattle, pigs, etc., in Simbach. He isolated a short polar-staining bacillus, non-motile, growing best aerobically in broth at incubator temperature, not liquefying gelatine, and inoculable to cattle, horses, pigs, sheep, goats, dogs, and rabbits. In blood preparations collected in 1878 (consequently preserved 17 years) from the cases which had been described by Bollinger, Kitt found bacilli morphologically the same as those from the Simbach outbreak. Johné confirmed Kitt's observations on material and cultures furnished him by Kitt.

Huppe from specimens received of Kitt, also confirmed the latter's statements and identified the bacilli with (a) those

shown by Semmer, Perroncito, Toussaint and Pasteur to be the cause of European chicken cholera; (b) those described by Koch and Gaffky as producing septicæmia in rabbits; and (c) those Löffler and Schutz had found to be the cause of schweineseuche or German swine plague. Huppe proposed the name *B. septicæmia hæmorrhagicæ* for the members of the group, and his observations and classification have been corroborated by a number of later observers.

In 1898, Dr. H. D. Fenimore described, under the name "Wild and Cattle Diseases," a malady among the cattle of East Tennessee. It was recognized through the assistance of Dr. Norgaard as the disease described by Bollinger in 1878 under the denomination of "Wild und Rinderseuche."

On August 17, 1900, the first observed outbreak of this disease in Minnesota occurred near Newport, and in fourteen days it caused the death of 15 animals in a herd of 26. Seven other outbreaks were studied during the year. The conditions under which they occurred differed greatly as to soil, weather, feed, sex, etc.

No uniformity of local conditions prevailed. The weather at the beginning of outbreaks Nos. I and II was hot and moist; during the time of outbreak No. III, cool, and during outbreaks Nos. V, VI and VII, very cold and the ground frozen. Thus it would appear that in these outbreaks neither temperature nor moisture were essential predisposing factors, though the latter has been frequently noted as such in other countries. Though the food or water or both may have been the vehicle for the ingestion of the bacteria causing the disease, the character of the food or water *per se* would appear to have no bearing on the infection. The wild nature of the pasture, part of it on low marshy ground, in the first three outbreaks, might have led to the suspicion that the animals died from eating poisonous plants. In outbreaks V, VI, and VIII, the fact that the animals were being fed on standing corn fodder, considered in connection with the obscure symptoms, suddenness of death and the absence of marked external lesions had convinced the owners that their cattle died of "corn stalk disease."

Age, sex and previous general good health were not determining factors in the infection, since animals of all ages, both sexes, and in the best of health were attacked.

The onset of the disease in every case has been sudden and proved rapidly fatal. In some of the cases death occurred within 6 hours; in most of them within twenty-four hours, while a few lived three or four days.

All the animals which showed any symptoms died, a mortality of 100 per cent. of affected animals. Out of a total of 160 animals in the 8 herds affected, 64, or 40 per cent., showed symptoms and died.

Symptoms.—The animals observed at the onset of symptoms appeared "dumpish" and "out-of-sorts." Sudden stopping of the milk secretion was present in milch cows. Most of them made no attempt to eat or drink. Of the few that did make the attempt, those with affected throats were unable to swallow except with great difficulty. These cases also breathed very heavily. The animals showed marked disinclination to move, and when incited to do so, exhibited stiffness and in some instances, actual lameness. Some of the animals dropped to the ground and died in a short time, apparently without pain. Others were down when first observed to be sick and lived for several hours in great pain, as indicated by groans, and spasms of the muscles. These attacks of pain were apparently intermittent. There was extremely rapid loss of flesh in the animals which were sick more than one day. The temperatures ranged from 100 to 105.6, usually falling before death.

Painful, œdematous swellings about the legs, shoulders, and under the throat were noted as early symptoms. The bowel discharges were often streaked with blood, while at other times a black, tarry or a bloody serous discharge was noticed. Bloody urine and a bloody serous discharge from the nose were present in some of the cases. The vaginal and rectal mucous membranes were intensely congested.

Morbid Anatomy.—The characteristic lesions of the disease were areas of hæmorrhage widely distributed, and varying in

size from a pin point to several inches in diameter, and from light red to almost black in color. They were accompanied in most instances—though of less general distribution—with a sero-fibrinous exudate, usually yellow, but occasionally dark red in color. The hæmorrhagic areas in the animals just dead were not so dark as those in animals dead some hours. The large areas—several inches in diameter—were apparently due, in some instances, to single hæmorrhages infiltrating an extensive mass of tissue, and in others to a number of minute hæmorrhages closely placed and partially coalescing. No gas was present in the subcutaneous connective tissue except in a few instances in which extensive post-mortem changes had occurred. The following is a more detailed description of the lesions:

An excessive fullness of the vessels of the subcutaneous connective tissue was present in some of the acute cases, especially in those animals which were not killed by bleeding. In the animals which lived until emaciation was marked, there was no engorgement of the vessels.

All the animals showed some hæmorrhagic areas in the subcutaneous connective tissue, though the number and size of those varied greatly in the different cases. A few animals showed not over one-half dozen areas between an inch and an inch and a half in diameter, though many minute ones were present. In other animals, on removing the skin, the hæmorrhagic areas were found in great numbers and so extensive that a large fraction of the body surface appeared to be involved. The larger hæmorrhages in the subcutaneous connective tissue appeared to be of the composite type noted above.

The favorite location of the superficial lesions varied in the different animals. In most of them, the region about the shoulders was most affected; in some, the throat region, and in others the digital region. In the gluteal and inguinal regions, a few showed marked lesions. When the skin had been removed sometime before autopsy the lesions in the subcutaneous tissue were much obscured.

At first sight the muscle tissue in some cases appeared to be

much involved. A close examination, however, usually showed that while some of the minute hæmorrhages were sometimes seen in the muscle proper, the larger ones were in the intermuscular septa. Here also was frequently found a yellowish or blood-stained serous exudate in considerable quantity. This connective tissue, where examined, appeared quite as much involved as the subcutaneous connective tissue, and where the lesions in the latter were obscured, as by long exposure of the skinned animal to the air, furnished a likely field for observation. Particularly was this true of the tissue under the shoulder.

The lymphatic glands were frequently enlarged, œdematous and often hæmorrhagic.

Respiratory Organs.—The nasal mucous membrane in some cases was congested, and a bloody serous discharge from the nostrils was present in a few instances. The tissues around the larynx were hæmorrhagic and infiltrated with bloody serum. The mucous membrane of the larynx and trachea was more or less congested and covered with a frothy mucus, sometimes streaked with blood. In a few instances, no lesions were observed in the larynx or trachea. The lungs were in general almost free from evidence of disease. A few showed a small number of hæmorrhagic areas, pyramidal in shape, with their bases on the pleura. One animal had consolidation of a portion of the anterior lobes of both lungs. In most cases, the parietal pleura was studded with small hæmorrhages. The diaphragm sometimes contained very large hæmorrhagic areas.

Circulatory Organs.—The pericardial sac usually showed small—sometimes very numerous—hæmorrhages in its walls, and in many instances contained bloody serum.

The heart walls, with but few exceptions, contained large and small hæmorrhages. These sometimes extended deeply into the muscle. Similar areas of hæmorrhage were also visible on the endocardium. The heart contained blood clots, post-mortem in formation.

The blood in the animals just dead, was somewhat lighter

than normal in color. When post-mortem changes had set in, the blood was darker in color, but reddened on exposure to air.

The spleen showed on its surface a few small hæmorrhagic spots. It was usually normal in size, color and consistency, except where post-mortem changes had taken place.

Digestive Organs.—No stomatitis or glossitis was present. The pharynx was usually congested.

The stomach walls contained few or many hæmorrhagic areas. These were sometimes extremely large, especially on the third stomach of which, in one instance, the entire thickness of about half the wall, was involved. As a rule, the larger hæmorrhages penetrated the entire thickness of the walls. The smaller ones were confined to the subserous or mucous coats. The stomach contents were apparently normal.

Hæmorrhagic areas involving all the intestinal coats were frequently present. Smaller ones, visible only from the inner or outer aspects, were always present. General enteritis and peritonitis were present in one case. Localized enteritis was frequent.

The bowel contents were in some cases black and tarry ; in others fæces apparently normal in color and consistency, but streaked with bloody mucus were present.

No gross lesions, excepting post-mortem ones, were found in the liver.

Genito-Urinary Organs.—The kidneys were usually but slightly affected. When lesions were present they were pinpoint in size and mostly confined to the cortical substance, though a few were found in the walls of the pelvis and ureters.

The bladder wall in a few cases was œdematous and contained scattered hæmorrhagic areas. A general cystitis was present in animal No. 5. The urine was bloody in a few instances.

The vaginal mucous membrane was congested in a number of cases. One animal, No. 17, which was four months pregnant, showed small areas of hæmorrhage in the placental membranes.

The udder was congested and in some cases consisted of one mass of hæmorrhage.

Central Nervous System.—This was examined in but three cases, Nos. 9, 10 and 14. The first two showed hæmorrhages of the dura. An examination of a small portion of the spinal cord (in No. 14) showed no lesions.

Synovial Membranes.—The synovial membranes of the principal joints of the limbs were examined in animals Nos. 9, 10 and 14. No. 14 showed no lesions. Nos. 9 and 10 showed hæmorrhages in all of the joint surfaces.

Morbid Histology.—Portions of subcutaneous tissue, skeletal muscle, lymphatic glands, lung, heart wall, stomach wall and spleen, after fixation in 95 per cent. alcohol and in 4 per cent. formaldehyde solution, were stained by various methods and examined. In general, the lesions found were enormous extravasations of blood, some recent and some showing coagulation of fibrin. In the areas of less recent hæmorrhage the surrounding tissues showed varying degrees of ordinary coagulation necrosis. This was particularly marked in affected muscles, lymph glands, and portions of the lungs. In the borders of such necrosed areas, leucocytic infiltration was not infrequent. In the spleen, in which hæmorrhagic areas were neither numerous nor large, there was, in some instances, an apparent destruction or shrinkage of the parenchyma.

Bacteriology.—The bacillus found so uniformly present was recognized from the first as belonging to the hæmorrhagic septicæmia group of Huppe and best specifically designated as *bacillus bovisepiticus* by Kruse.

The organism is a bacillus, though from its tendency to show marked polar staining in tissues and to form chains of much shortened individuals in fluid media, it may be mistaken in examinations of a single specimen for a diplococcus or streptococcus. In the cultures from the recent outbreaks many of the long streptococcus forms as figured by Wertheim were frequently met with. Sometimes in coverslip preparations from solid organs and very frequently in those from the bloody fluids and

liquid cultures, the bacilli were found in chains of three to twelve individuals. In direct coverslip preparations the bacteria appear to be from 0.6 to 0.8 microns in transverse diameter, and from 1.0 to 1.5 microns in longitudinal diameter. In tissues which have been fixed in 96 per cent. alcohol, the bacteria are somewhat less than the above dimensions, probably due to shrinkage by the fixation. In cultures, especially in fluid media, they are apt to be much less in size and closely approach diplococci in appearance. They are ovoidal in shape and the ends are always rounded.

In the specimens directly from the tissues, most of the bacilli have the ends intensely stained and the central portion but faintly so. In some chains in rapidly growing broth cultures, this is not the case, but many of the individual bacilli are evenly stained throughout and may be somewhat pointed at the ends. Löffler's methylene blue brings out the polar stain to good advantage. The bacilli do not retain the stain by Gram's method. The organism is non-motile. It is ærobic, but prefers the depths rather than the surfaces of media. It will also give a faint growth anærobically in glucose media even when the strictest precautions are used to exclude oxygen. It grows best at incubator temperature and more slowly at room temperature.

Diagnosis.—The suddenness with which the animals die in many instances makes the diagnosis from symptoms alone extremely difficult or impossible.

Autopsies are demanded in every outbreak. Bacteriological examinations are equally necessary in the first outbreaks studied by a veterinarian, in a community, or when for any reason the lesions are obscured, as in the sub-acute form of the disease or from exposure of the skinned carcasses to the air. It may readily be confounded with anthrax, black-leg, "corn stalk disease," or poisoning. The occasional swelling of the neck, bloody discharges from the nose and rectum, bloody urine, and the sudden fatality makes many of the cases closely resemble anthrax. (Post-mortem, in animals recently dead, the light color and ready coagulability of the blood, the normal size, color and con-

sistency of the spleen, and in any case the absence of anthrax bacilli and the presence of bacillus bovisepiticus should establish the diagnosis.) Occasionally in young stock, the swelling especially if not marked about the digits, the lameness and the rapid fatality may cause confusion with black-leg. The absence of crepitation due to gas in the swollen areas, and post-mortem, the character and general distribution of the hæmorrhagic areas, and the absence of the bacilli of symptomatic anthrax, in properly grown anærobic cultures, with the presence of the bacillus bovisepitic will serve to accurately differentiate the two diseases.

In the fall and winter, when the cattle are running in standing cornfodder, as in outbreaks V, VI, VIII, a sudden outbreak of the disease with rapid fatality, and post-mortem, the occasional finding of only small, though widely distributed hæmorrhagic areas, may lead to a diagnosis of "corn stalk disease." Indeed, it is quite conceivable that some of the many so-called cases of this latter malady, which have occurred in the northwest this and previous years, may have been due to the bacillus bovisepiticus. When the conditions are as above, the finding of the more marked post-mortem lesions in other cases or the isolation of the specific bacilli alone from the organs, should determine positively the diagnosis of hæmorrhagic septicæmia.

When cattle are in weedy pastures, the sudden onset, occasionally with absence of external lesions, and the rapid fatality may lead to strong suspicion of poisoning from plants. The presence, post-mortem, of the characteristic lesions, or the isolation of the causative bacteria, will fix the diagnosis.

Treatment.—The sudden fatality of this disease gives little or no opportunity for medical treatment.

Prophylaxis.—The healthy cattle should be removed from the infected pastures at once. Division of the herd into small groups or individuals, with isolation of each, would be very desirable, and, where possible, should be done. Carcasses should be promptly burned or deeply buried, and the ground where they lay should be covered with straw or hay which should be burned until the ground is thoroughly heated. When cattle

die in the stable all contaminated litter should be burned. The stable floor should be thoroughly saturated with a 5 per cent. solution of carbolic acid. The walls and all woodwork should be thoroughly whitewashed with freshly slacked lime. Corrosive sublimate 1 to 1000 may be substituted for the carbolic acid.

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NEW OUTBREAKS OBSERVED SINCE THE PRECEDING "REPORT
OF THE STATE BOARD OF HEALTH."

This disease has been recognized on 72 different farms in 18 counties since the date of the first report, making in all 80 outbreaks, the location of which are shown on the map before you. The location of these outbreaks indicates its wide distribution in Minnesota, where it has caused the death of 551 cattle. Many reports have been received during this time of cattle dying suddenly from unknown causes. Further inquiry in some instances elicited information from the owners of the diseased cattle which satisfied the writer that death was due to hæmorrhagic septicæmia. None of these outbreaks, however, have been included in the above data. Minnesota is not alone a sufferer from this disease. During the middle of August, 1901, the writer accompanied Dr. J. P. Foster, State veterinarian of South Dakota, on a trip of investigation into portions of that State where anthrax was prevalent. The possibility of two malignant diseases occurring at the same time in a herd or locality was a point which was thought worthy of investigation.

On one range 36 animals had died a few weeks previous to our visit. These cattle, the owner supposed, all died of anthrax. One cow which was taken sick at the same time with, it was supposed, the same disease was still alive, although weak and greatly emaciated. When made to move it staggered and breathed heavily. With the owner's consent she was killed for the purpose of autopsy. Evidences of previous hæmorrhages were found and the anterior lobes of the lungs were adherent and contained many small abscesses. On the left knee was an extensive higroma. Cultures were taken from

the knee, spleen, and heart's blood. Portions of the various organs were also obtained and taken to the laboratory of the Minnesota State Board of Health. *B. bovis* was obtained in pure cultures from the same, while *B. anthracis* was not found.

Later reports were received from other portions of South Dakota stating that in several instances cattle had died suddenly, after being protected from anthrax by the second vaccination.

As the disease had been found co-existent with anthrax it seems probable that some of these protected animals may have died of hæmorrhagic septicæmia.

In the AMERICAN VETERINARY REVIEW, March, 1902, Dr. C. Brown, of Neillsville, Wis., reports hæmorrhagic septicæmia as having been prevalent for a number of years in that vicinity.

The most interesting work which has been done on hæmorrhagic septicæmia in Europe during the last year has been that by Nocard, on white scour and lung disease of calves in Ireland. It is worthy of note that this experienced observer made observations on material from several autopsies before he found the specific organism, and that he then returned to his original cultures and found the organisms in most of them.

Symptoms.—The symptoms observed in the Minnesota outbreaks of 1901, were much the same as in the previous year; *i. e.*, loss of appetite, stiffness, fever, swelling of legs or throat, and a black tarry or bloody discharge from the bowels. Bloody urine and bloody nasal discharge were present in a few cases. Many animals died, however, without the owner having observed any symptoms, being found dead in the yard or pasture.

During the early part of the present year a peculiar form of this disease made its appearance in several large herds in the northern part of the State. It is but a few years since this section was an untrodden wilderness. One herd of 125 head was kept on land never before occupied by cattle. Eighty animals

out of this herd died in about four months. Cattle in several of the older parts of the State were also affected with this new type of the disease, the symptoms varying somewhat in the different outbreaks. Emaciation was rapid and the mucous membrane soon became pale; weakness of the hind legs followed by inability to rise was a common and early symptom. The appetite in many cases remained good to the last. One cow which was down for several weeks gave birth to an apparently healthy calf, although she remained down and died after five weeks' sickness.

In several instances cows which were unable to get up for a number of days and were much emaciated, gave birth to healthy calves and after from two to four weeks regained their feet and made recovery. In the majority of cases which were unable to rise the temperature was not found above normal. But temperatures varied greatly in the different stages of the disease, ranging from 98° to 106° .

In some instances the symptoms of paralysis were absent and swelling of submaxillary region was noticed and in other instances stiffness with soreness of legs was observed. Cerebral symptoms were noticed in several cases, such as turning in circles, running, jamming into corners, running backwards, clamping of the jaws and trembling. In one instance wry neck was caused by contraction of the muscles of one side of neck, and another case was totally blind due to paralysis of optic nerve. The cases showing cerebral symptoms were usually acute, dying in about 48 hours.

Post-mortem Appearances.—In outbreaks previously reported it will be noticed that hæmorrhagic lesions varying in size and number were found in all the animals. The digestive organs were most involved in some instances, while in others the lesions were most numerous in the thoracic cavity, no portion of the body being exempt. The location of the lesions varied with the outbreaks, practically all affected animals in an outbreak having lesions in the same region or set of organs. This same tendency has been noticed in the outbreaks occurring this season. These recent outbreaks are peculiar on account of

the prevailing tendency of the disease to affect the membranes of the spinal cord and brain, causing minute hæmorrhages therein, and an extensive sero-sanguineous exudate into the spinal canal. In cases killed for autopsy the spleen has been practically normal aside from the small areas of hæmorrhage found under the capsule. In one outbreak in a herd of twelve cattle, where six animals died with the spinal form of this disease, one animal which was down and unable to rise was killed for autopsy. Very few hæmorrhagic areas were found subcutaneously or in the internal organs, although marked lesions of the spinal cord were found. In this instance the spleen presented a very unusual condition, being much enlarged. The pulp was soft and very dark with a tendency to gravitate when lifted by one end. Exposure to the sun and hot wind for a short time caused it to shrink to less than normal size. In nine outbreaks, including the one mentioned above, bacteriological examination of specimens of one or more cattle showed the presence of *B. bovisepiticus*.

Diagnosis.—In addition to what was contained in the original report, the more recent cases have shown the necessity of extreme care in diagnosing, by clinical symptoms alone, cerebro-spinal meningitis in cattle. It is also certain that several of the outbreaks occurring in the southern part of the State would—had hæmorrhagic septicæmia been unknown—been diagnosed as corn stalk disease. Under certain conditions this disease might be confounded with black-leg, as one instance in the experience of the writer will illustrate: In one neighborhood several cattle had died, and on one farm visited, a calf was very sick and two yearlings which had been sick were still somewhat stiff. The calf showed no external swelling, but as he was very sick the owner consented to its being killed for autopsy. No hæmorrhagic areas were found subcutaneously or in the internal organs. Deep in the muscles of the hip was a small area of infiltration which was dark but free from gas formation; in fact, gas formation was not found in any part of the body. The organs in the thoracic cavity were normal. The abdominal cavity con-

tained a quantity of bloody exudate. The visceral peritoneum and omentum were stained a dark red color.

In this case a provisional diagnosis of black-leg was made and vaccination advised. Laboratory findings proved the diagnosis of black-leg to be correct.

ON Jan. 1, 1901, there were 152 qualified veterinary surgeons in Norway. According to the census taken on Dec. 3, 1900, there were 172,879 horses, 948,736 bovines, 994,442 sheep, 214,295 goats, 164,610 pigs, and 93,765 reindeer in the country.

SENSIBLE ADVICE TO BREEDERS.—This journal has of late been appealed to by breeders for assistance in combating abortion which has broken out among the mares on their farms. This dreaded trouble seems to take on different guises, though of course the result is the same in all instances. In one case the breeder spoke of his mares doing quite badly for some time. All of them showed to be more or less ill and finally one lost her foal. In a few days several more had followed suit until very serious financial damage had been done. On another farm no sickness could be discerned among the mares. A young mare apparently as well as she ever was in her life was seen to lie down. When visited shortly afterwards it was found that she had slipped her colt about ten weeks before its time. The mare soon got up and went to eating as though nothing had happened and never seemed to be ailing afterwards. Within the next seven days three of the other mares did exactly the same thing, all apparently about the same length of time along. In no case did these mares seem to suffer any immediate bad effects from the abortion. It will be seen, therefore, that sometimes this awful scourge steals into a herd like a thief in the night. At other times its coming may be heralded for some weeks. In all instances as soon as it appears in the neighborhood or for other reason is feared, a skilful veterinarian should be summoned at once. There is no other way. He will prescribe for the sick and the well. He will detail sanitary measures, which should be undertaken faithfully and forthwith, and generally order the work of eradication. So dreadful a scourge is this disease that no one can afford, out of considerations of economy or anything else, to let a moment slip without getting to work to fight it. The veterinarian alone is qualified to order the work. This is the best advice we can offer to all who are unfortunate enough to be menaced in this wise.—(*Breeder's Gazette.*)

GASTROENTEROTOMY, WITH REPORT OF A CASE.

BY J. MILLER, V. S., OTTUMWA, IA.

A Paper read before the 15th Annual Meeting of the Iowa State Veterinary Medical Association, January, 1903.

The triumph in this field of human surgery and the success attending this operation in some of the domestic animals would warrant its more general application. Gastroenterotomy implies an incision of the intestine through an opening in the abdominal wall. It is the least complicated of all intestinal surgery, but the marked intolerance of some of our patients to any operation of this character demands great skill on the part of the operator in the technical part of the work. We should spare no pains in making ourselves acquainted with the most improved methods, and should by practice make ourselves familiar with the technique. This familiarity can easily be acquired, as we have frequent opportunities to hold post-mortems. It is said a fairly good method skilfully performed is better than the best method clumsily performed. A thorough knowledge of the anatomy is essential to secure the best results. Any ignorance as to the muscles and their disposition, the course of important vessels and nerves and the arrangement of the intestines and their relation to the other organs of the abdomen will not only make the operation more difficult, but also more hazardous.

Gastroenterotomy is indicated in the following conditions: Coprostasis, foreign bodies in the intestines, and intestinal dilatation. Undoubtedly many lives have been sacrificed from each of these conditions that might have been saved by proper surgical interference. The diagnosis of diseased conditions within the abdominal cavity is not always easy, and every precaution should be taken to prevent arriving at erroneous conclusions. The history of the case should be thoroughly inquired into, a careful examination should be made, and not until proper medication has failed should we resort to any operation. When, however, all other agencies have failed and we are quite sure of the correctness of our diagnosis and have good reason to believe

that the life of the patient can be saved by the use of proper surgical measures it is a wrong and a shame to fail of our duty and abandon our patient to fate.

Preparation of the Patient.—Frequently there is not much time for this, as the suffering is so great and the demand for relief so urgent. The importance of dieting for a day or two previous to operating should not be overlooked, as an empty condition of the stomach and bowels greatly enhances a speedy recovery. It not infrequently happens that the illness of the patient and consequent inappetence has secured this condition. Hospitals are seldom at our command and in many instances it is difficult to secure a suitable place to operate. A clean place should be selected, as free from dust and dirt as possible, and just before operating should be sprinkled with an antiseptic solution.

Having determined on the site of the opening it should be clipped, shaved and disinfected. But few instruments are needed in enterotomy, but these should be in readiness before casting the animal and administering the anæsthetic. A couple of scalpels, artery forceps, scissors, a few assorted needles with suitable thread is all that is required. These with a supply of gauze or muslin and a can of iodoform should be placed within easy reach of the operator. It is important in operations of this character to observe the following considerations with care :

1. The avoidance of all unnecessary hæmorrhage.
2. The prevention of the escape of any irritating matter into the abdominal cavity.
3. The union of the divided borders so that they will remain properly joined and result in perfect repair.
4. The avoidance of any unnecessary shock or irritating influence.

The first indication is met by the avoidance of any incision through the lines of an established course of vessels and by the use of needles which do not possess cutting edges. To meet the second indication requires a great deal of care. If the nature of the case will allow, the contents of the viscus should be

pushed aside before the incision is commenced. If the length of the mesentery will permit, it is advisable to bring the bowel out on the surface of the abdomen. Should this be impossible the serous surface can be protected by packing around gauze or muslin saturated with a mild, warm antiseptic fluid. Despite every precaution, occasionally there will escape some of the contents of the intestine into the abdominal cavity. A small quantity can be sponged or wiped up, but if considerable quantity has escaped and become diffused, it is best to irrigate with $\frac{6}{10}$ per cent. saline solution at a temperature of 112° F. In opening up the abdomen, if the incision is made through the linea alba, the hæmorrhage is so slight that no ligaturing is necessary. In making the incision at other points there is more danger of hæmorrhage, and not infrequently one or more vessels will have to be tied. This should be done before the peritoneum is incised. The incision in the small intestines should be made at a point opposite the attachment of the mesentery and parallel with the long axis of the bowel. Any tearing or separation of the mesentery from the bowel should be avoided, as it lowers the vitality and diminishes the probability of repair. In operating on the colon the incision may be either transverse or longitudinal as best suits the convenience of the operator. When chronic dilatation exists it is advisable to remove an elliptical piece, suturing the intestine to the proper size. In fulfilling the third condition sutures of various forms and methods of application are employed, the aim of all being to bring the serous, muscular and submucous coats in contact and maintain them until perfect union is established.

The fourth indication is very important, especially if the operation be prolonged and tedious. Unwarranted rough handling, dull scalpels, and other imperfect instruments, too large or too small an incision, and all other imperfect conditions tend to increase the shock.

Intestinal Suture.—We have many varieties of intestinal sutures to choose from, but some are too complicated to be practical. My aim, therefore, will be to describe only those having

the sanction of practicability. Needles that displace and do not cut the tissues in the passing are the ones employed in intestinal sewing, the common cambric needle being a good illustration of the kind. Catgut or silk sutures are used, but the latter is preferable to the former, as it is not so liable to stretch and allow the parts to separate before a perfect union has taken place. A size suitable to the work is selected and sterilized. The iron being preferable when the suturing has to be done in the abdomen where it is difficult to make sure of the exact location of each stitch on account of a poor light or other conditions which obscure the operation. The strength of the suture should be tested lest it should break when applied, confusing the surgeon and delaying the operation. Much stronger thread is required in suturing the stomach of the ox than the intestines of this or other animals on account of the size and weight of this organ and its vigorous movements.

The sutures should include the serous, muscular and submucous coats. The borders of the incision should be turned in and the serous surfaces brought together and transfixed by either one of the following methods :

The Continuous Suture.—This is a very useful and a very practical suture in joining the borders of the incision, as it is very easily and quickly applied, the stitches being placed about two lines apart, in this respect differing from cutaneous sewing.

The Gely Suture.—A long thread is secured, armed with a needle at each end. The needles are inserted about half an inch from the angle of the wound and carried along the tissues of the bowel for about a sixth of an inch, and brought out on the same level so as to appear on the peritoneal surface. The needles are crossed and passed as before. If a knot is made at each crossing slipping is prevented. This suture, although a good one, is not so well understood and cannot be as promptly applied.

The Cushing Suture.—In this suture, as in all others, the serous, muscular and submucous coats are included. The thread is knotted and the needle inserted in a longitudinal direction for about two lines and is brought out on the serous surface. It is

now carried to the opposite side and at the same distance from the border of the incision is passed as before, being carried back again and the process repeated. When the thread is drawn tight, the wound is closed and the stitches are concealed.

Lembert's Suture.—This method is one that is commonly used and is quite reliable. It consists of a number of interrupted sutures which never come in contact with the contents of the alimentary canal. There is no slipping in this method, as each stitch is tied by itself. Each stitch being independent, the premature giving away of any one would not necessarily interfere with any of the rest, or result in the opening of the wound, as might occur with a continuous suture.

The Czerny-Lembert Suture.—Two rows of sutures are employed in this method; neither, however, passes through the mucous membrane. The first, being the deeper series, are placed quite close to the borders of the incision, bringing them into contact; the second, the Lembert, are placed farther from the borders of the wound and outside of the first series, thus making two rows.

The Halsted Suture.—The Halsted, or quilt, sutures are similar to those used in the knotting of a quilt. Tying should be omitted when practical until all the sutures are placed.

Two methods of closing the opening in the abdominal wall are practiced: that (1) in which certain tissues are joined independently with each other, called tier suturing; (2) that in which the borders are joined as a whole, sometimes called suturing *en masse*. In the former the peritoneum is joined independently with a continuous suture, later the muscles, and, finally, the skin by interrupted or Lembert sutures. The wound should be thoroughly cleaned and dusted with iodoform, and before the opening is completely closed the air should be forced out by pressing the walls of the abdomen. In the latter method the borders are transfixed by using two needles passing from within outwards, thus rendering to a minimum the probability of infection. Although this plan is the best, the transfixing may be done in the usual way, using but one needle and passing from

right to left or the reverse, penetrating one side from without and other from within. In the small animals this latter method is quite safe and just as effectual.

After Treatment.—The patient should be kept as quiet and comfortable as possible. No solid food should be allowed for six or seven days. Small quantities of water, milk or oatmeal solution can be given. Sometimes the pulse becomes very feeble and the strength of the patient rapidly runs down, showing that the system has been greatly disturbed by the operation. This is what is commonly called shock and should be met by the use of stimulants hypodermically, followed later by subcutaneous injections of saline solution in extreme cases. Peritonitis is one of the most likely complications and should be overcome by fomentation and morphine. Nutritious enemas may be used to keep up the strength. The wound may be coated with collodion, or, where practical, it may be protected by sterilized gauze held in position by a broad body bandage. Because of unfavorable circumstances it is difficult to get union by first intention; therefore, it is wise to examine the wound on the second day, and, if need be, dress it once a day. Where there has been considerable infection of the abdominal cavity, the symptoms become alarming and it is best in such cases to open the wound and irrigate the cavity with a weak bichloride solution, 1 to 10,000. Occasionally the stitches will give way before union of the borders has taken place, demanding resuturing.

In connection with this paper I have two cases to report.

The first was a case of coprostasis in a member of the bovine family. Strictly speaking this case does not come within the title of this paper, but, as it bears such a close analogy, I have thought best to include it. The operation was one of rumenotomy on a dairy cow in the prime of life. The first operator had failed in securing union of either the stomach or abdominal walls and I was called to complete his work. Both openings were gaping at the time and the movements of the stomach could be easily seen. The cow did not seem to be much incon-

venieniced and ate reasonably well of the soft food given her. The first sutures giving way before perfect union had taken place, I found it necessary to again apply them to permanently close the openings, this making the third time the parts had been sutured.

The second case was one of foreign bodies in the intestines of a pug dog. This little sufferer had been sick for about 10 days. The symptoms were those of inactivity of the bowels, occasional ineffectual attempts at defecation, with languor and vomiting of all solid food and medicine for the last few days. The obstructions were found to be in the floating colon and consisted of two intestinal concretions, spherical in shape, almost one inch and a half in diameter and made up of pieces of bones and sand cemented together with alimentary matter and as hard as a rock. He rallied from the operation in good shape, and, although quietude was enjoined, he insisted upon going about the house, and even upstairs, and refused to be carried. Primary union in the wound was realized and there was no supuration except at the points where the stitches were inserted. The stitches were removed on the seventh day. By this time he was practically well save a little complication which occurred at the time of administering the anæsthetic, viz. : keratitis. No bandages were used in either case. The wound was dusted with equal parts of talcum and tannaform two or three times a day.

What I have said is based on a limited, but successful experience, and I am of the opinion that this and other operations for the relief of neoplasms, volvulus, intussusception and strangulation should be, and I doubt not will be, performed more frequently.

DRAUGHT HORSES ON THE CHICAGO MARKET.—A new price-record was made in the Chicago market, March 26, for a whole load of draughters sold at auction. John Harschberger, an Illinois shipper, closed out a collection of seventeen head for a total of \$4,615, making an average of \$271.40. Two geldings which weighed a ton or more each were sold for \$400 each and two matched pairs sold for \$605 and \$600.

ULCERATIVE ENTERITIS IN THE HORSE.

BY G. L. BUFFINGTON, D. V. M., BAXTER, IA.

A Paper read before the 15th Annual Meeting of the Iowa State Veterinary Medical Association, January, 1903.

The essential organs of digestion, the stomach and intestines, being charged with the complex process of converting foods into nutriment, which may be assimilated and thus used in building up and maintaining all tissues and organs of the animal body, are, of necessity, very complex in their organization. That they are capable of disintegrating and separating the various foods into material which can be used in building up all parts of the animal by supplying it with the required nutriments for maintaining heat and energy is evidence that they have a vast amount of work to perform, and that the physiological process is very complex. The anatomical construction also favors the physiological process. The great length of the alimentary canal; the irregular dilations and sacculations and the longitudinal bands with which it is traversed give to it a very extensive surface to present to the alimentary matter in its onward passage through the canal. It also tends to stay its progress until all the material has been subjected to the digestive fluids so that nothing can escape which may be utilized for nutrition. The normal peristaltic movements also assist digestion by increasing the secretions and producing a more thorough mixture of the alimentary matters.

Considering, then, that all the functions of the alimentary canal must be performed in a normal condition in order to insure perfect health, and that it is compelled under so many circumstances and environments to carry on this process of digestion and assimilation under abnormal conditions, it is not strange that we find the digestive organs of the horse subject to many diseases. In this view we may regard the disease as a transformation from the physiological to the pathological condition brought about by some abnormal condition of the food or environment, or by infection.

We wish to consider briefly but one of the many diseases of the digestive organs of the horse. *Ulcerative enteritis* is so closely related to some other intestinal affections that it is often difficult to distinguish between them.

Symptoms.—The symptoms are often obscure at the beginning, but soon manifest themselves in such a decided manner that the attendant is convinced he has a very serious case to deal with. The first symptom usually observed is refusal of all food, or if he is at pasture where this would not so readily be observed, a profuse diarrhoea first attracts the owner's attention. The horse appears dull and languid; a general tucked up appearance is observed; the buccal mucous membrane is usually red and in cases of a subacute type the membrane is ulcerated, as is also the tongue; petechiæ cover the nasal mucous membrane and sore spots sometimes appear under the alæ of the nostrils, though this is not a constant symptom. There is usually a foul odor in the mouth; the pulse is accelerated and feeble; the temperature is not usually high, ranging from 102 to 104°, or perhaps as high as 105°. Diarrhoea often sets in early in the disease, and, if the inflammation is not intense enough to destroy life quickly, the evacuations become liquid and dark colored and in some cases run from the anus in a stream without any expulsive effort on the part of the horse; borborygmus is present; a craving for salt was observed in one case, though it refused all food. As the disease progresses the symptoms are indicative of the most intense pain. The animal will roll around in every conceivable shape. I have observed them to roll upon the back and remain in that position for some time as though it afforded some relief. The veterinarian called at this time might mistake the symptoms for those of spasmodic colic, but an examination of the pulse, which is now very rapid and feeble, will convince him that he has something much more serious than colic to deal with, as in colic the pulse is normal or nearly so. The character of the pain is also different. In colic it is subject to remissions, while in this form of enteritis it is constant. Manipulation or pressure over the abdomen will reveal the watery con-

tents of the bowels and also will often cause the animal to evince pain.

Course of the Disease.—The course of the disease may vary from one to three days in acute, to as many weeks in subacute cases. A large percentage of cases prove fatal, but when recovery does take place it is very slow.

Treatment.—A considerable number of horses suffering from this disease are beyond the reach of medical treatment before the veterinarian is called, and I believe most of them are hopeless from the outset. Where the symptoms are not so aggravated but that there is some hope of recovery, beneficial effects may be expected from the application to the abdomen of blankets wrung out of hot water and these covered with dry ones. Opiates are to be given to relieve the pain and quiet the action of the bowels. If diarrhœa is established, subnitrate of bismuth, prepared chalk, gentian and ginger along with opiates. In one subacute case which had refused all food for six days and then begun purging I gave the following prescription :

Prepared chalk,	} each 4 drams.
Gentian powder,	
Subnitrate of bismuth,	
Potassium chlorate,	
Powdered ginger, 2 drams.	

This was mixed with a quart of milk and three or four eggs, and then 4 drams of tincture of chloride of iron added and given three times a day. The patient began to improve in about two days and made a complete, but slow, recovery.

Post-mortem Appearances.—The lesions on post-mortem examination are well defined and very severe. No tympanites is present, but the intestinal canal is filled with a dark-colored, watery fluid ; in no case have I observed any trace of any solid excrement in any part of the intestinal canal. The wall of the large colon and cæcum is thickened to four or five times its normal thickness, though this thickening is not uniform in all parts of the intestinal walls. Some portions will be necrosed and of a green or black color. The internal surface of the co-

lon and cæcum is dotted with ulcers of various sizes up to about one-half inch in diameter. These ulcers are irregular in outline with ragged margins and are sometimes raw and sometimes covered with yellowish exudate which is easily scraped off, leaving a raw surface.

I observed one case in which the ulcerations were more uniform in outline and much smaller than those above described. They were small circular ulcers and the mucous membrane of both colon and cæcum was studded with them. The small intestine shows inflammation of a catarrhal nature, but I have as yet observed no ulcers in that region. The stomach is somewhat reddened, but I have not seen any indication of much inflammation in that organ. In some cases there is ulceration of the mouth and tongue. The mesenteric lymphatic glands are somewhat softened. The blood is fluid, dark colored and very scant.

Etiology.—I have very little of value to offer on this very important phase of the subject. The cause is as obscure as the treatment is unsatisfactory. It attacks horses of all ages under circumstances and environments which we would think ought to be favorable to health.

It was observed in a large three-year-old Clydesdale mare last September that had run in a good blue grass pasture all summer with a number of other horses and colts, all of which continued in the best of health. In another case, a twelve-year-old, well-bred, large driving mare that had been running in pasture all summer suckling a colt, became affected on October 11 and was dead at noon the next day. She was seen on October 10 and was not noticed to be sick, but was found the next morning scouring profusely and died in about thirty hours, so she could not have been sick more than about forty-eight hours at the most.

Another case, pure-bred weanling Clydesdale colt, had been running in good pasture with other colts in daytime during the fall and early winter. They were put in the stable at night and fed oats. On December 4th this colt was observed to be

dull and stupid and not inclined to eat, but did not seem much sick until four days later, when I saw him and found a temperature of $104\frac{1}{2}$, labored respiration, and quick, feeble pulsation, but not suffering much pain; bowels moving about normal. The following day he began to manifest considerable pain and rapidly grew worse, and on the evening of the next day died. There was no discharge of fæces during the last two days, but on post-mortem examination, the characteristic fluid condition of the intestinal contents and absence of any solid material, together with the usual lesions of an inflamed and ulcerated colon and cæcum, determined the seat of the disease.

Another case was a seven-year-old mare that had been kept upon dry feed and worked at light work on the farm. This was but a mild case and recovered.

The cause is probably to be found in a fungus or mould of some kind which develops on the grass or weeds, though this, so far as I know, has never been demonstrated. The past summer and fall were excessively moist, a condition which would favor the growth of fungus or mould, and it seems to have been more prevalent the past fall than heretofore. At least, it is the first time it has come under my observation.

THE RACE-HORSE "DOPE."—*Washington, March 27.*—The writer of this column picked up a very interesting document on the lawn yesterday. It was a prescription blank from a pharmacy at Bennings and on it was written the following: *Strychnine 2 grains, cocaine 10 grains, ginger 60 grains.* The document was turned over to President Howland, and the unfortunate owner or trainer who wants to recover it may apply to that gentleman. However, the prescription is reprinted herewith for his benefit. It was no doubt a dope prescription, and it looks like pretty good evidence that the speed balls were being used at the meeting. This dope question is one which merits the Jockey Club's attention. It is said that veterinary surgeons are easily able to detect a horse that has been doctored. If that is true, a veterinary should be employed for this special purpose. Running a horse one day with the dope and another day without it is a form of sharp practice which should be stamped out.—(*Special Correspondence New York World.*)

SOME FACTS AND THEORIES REGARDING "SURRA" AND ULCERATIVE LYMPHANGITIS.

BY COLEMAN NOCKOLDS, M. D., V. S., VET. 1ST. CAVALRY,
BATANGAS, P. I.

A third rainy season has just ended with its accompanying epidemic of surra amongst imported American horses, the mortality of which has amounted to thousands of Walers and native ponies, and the results of observations point to the following facts: Surra is a rainy-weather disease, beginning about a month after the rains have set in and lasting until between four and six weeks after the dry season commences. Animals become infected by taking into their stomachs organisms which exist in swamps through the agency of either grass which grows or has been dipped in the infected water, or the water itself. The life history of the trypanosoma is not known, but undoubtedly one stage of its existence is passed in water, and it is reasonable to suppose that it sinks in mud and becomes a prisoner when the surface of swamps are baked hard by the tropical sun; thus explaining the rarity of surra during the dry season. If this is true the surra parasite somewhat resembles the *plasmodium malarie* in this particular habit. Surra exists in districts, and grass taken from swamps in those districts and fed to horses invariably causes surra, as does drinking water from those swamps. Grasses taken from high lands do not cause surra, the parasite not being able to live in dry regions; nor does thoroughly dried grass. Flies and other insects do carry the infected blood around, and most probably cause the disease by inoculation, especially if there is a raw surface or abrasion upon the animal attacked, or they might be taken into the stomach either whilst the animal is biting itself, or with fodder, water, etc. Certain forms of mosquitoes may carry the infection from the swamps, but there have been noticed no different flies, or flies in larger quantities during the wet than the dry seasons in this district, although a great many of them when examined were found to contain the surra parasite; this was only true of flies that were

in surra infected districts. Flies are not important factors in the propagation of surra. Color of animals make no difference either in the number attacked or severity of the disease. Neglect, hard work, and exposure to the inclemencies of the season are predisposing causes; those animals that have had good care, and especially shelter, have certainly not been attacked in as large a proportion, and in some cases not one animal in a troop has died from surra during nearly three years on the islands.

Surra is an absolutely incurable disease, and once the parasite has gained entrance to the blood the animal will surely die within a few weeks. It was thought at one time that the arsenical treatment would cure, but although some animals treated with that drug rallied, and returned to duty, sooner or later they relapsed and died. Everything has been tried as a cure for surra by different veterinary surgeons out here, but without avail; we have yet to discover a cure for this disease. Prevention might be carried out by keeping animals in non-infected zones, and care being exercised with feed and water, and by not allowing animals to feed outside their proper stables, but the expense would be enormous.

ULCERATIVE LYMPHANGITIS

seems to be on the increase; there are certainly more cases of it during the wet season, but it can be seen at all seasons, and in most places on these islands where there are American horses; Walers and native ponies are also victims. It is rather a puzzling disease, as it so much resembles farcy-glanders, and upon a superficial examination it is easily mistaken for that disease. But there is something in the general appearance of ulcerative lymphangitis, which, although hard to explain, leads one to think it is not glanders. There is not present the general cachexia of the latter disease; the coat is shiny, the eyes bright, and, until the final stages, the animal remains in good condition; it is just as loathsome, but of course not as dangerous to man as glanders. This disease is caused by a cryptococcus which gains entrance to the system through flesh wounds,

or granulating surfaces; the parasite is easily examined by staining with a simple dye some of the discharge taken from the sides or base of an ulcer; the mallein test gives no reaction, and the animal does not look as unthrifty as in glanders, until quite the last stages of the disease. Abscesses form without following any particular line of lymphatics, or any change in the appearance of the skin and are apparently painless, more like cysts; these burst, leaving ulcers, in size from a ten cent piece to a dollar or larger, which have a hard firm base, white in color, and when scraped with a knife give one the sensation of scraping cartilage; the edges are clean cut, as if punched out, and the discharge is not over abundant, amber colored and thin. A horse may have only a few of these ulcers or may become literally covered; often metastatic lesions occur in the internal organs. A great many animals die from ulcerative lymphangitis, and a great many more have been killed because this disease has been mistaken for glanders. By careful treatment the mortality need not be excessive from this disease. Cattle, sheep, pigs or dogs do not suffer from ulcerative lymphangitis.

NEW JERSEY'S LAW IN FORCE.—"Dr." R. R. Sample, who practiced veterinary medicine in New Jersey without a license as required by Chapter 18, Laws of 1902, is still serving time in the Freehold jail. This ought to be a sufficient warning to all offenders against New Jersey's splendid law. The best thing about this law, however, is the fact that it is being enforced. The penalty "Dr." Sample is now paying is a good *sample* of what is liable to happen to others who dare practice in New Jersey without a license from the State Board of Veterinary Medical Examiners. In this connection it is pertinent to inquire as to what has become of President Law's Prosecuting Committee of the New York State Society. They were instructed by resolution to collect a fund with which to employ counsel for the specific purpose of prosecuting offenders against New York's laws; but we have not heard of their making an effort. The REVIEW has offered to start the fund with a subscription of \$25, but so far no request has been made for the money. New York will soon be known as "E. Z. Mark" if its lethargy in this respect continues.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

CLINICAL OBSERVATIONS.

By W. L. WILLIAMS, V. S., Prof. of Surgery, New York State Veterinary College, Ithaca, N. Y.

I. Rigidity of the Cervix Uteri in a Cow, with Retention and Decomposition of the Fœtus and the Formation of a Utero-Alimentary Fistula; Enlargement of Os Uteri by Incision, Removal of Fœtal Skeleton, Recovery.

Patient, a large, well-developed high-grade Galloway cow, aged 4 years, pregnant for the first time. Her age indicated that she had proven difficult of impregnation, since otherwise she should have bred at least one year earlier.

She was supposed to be due to calve about June 10, 1901, and on June 13th the fœtal envelopes were protruding from the vulva. The owner supposed she had calved and made a fruitless search for the young. Presuming that she had calved she was taken from the herd and pasture and milked. She appeared fairly well, but lost condition somewhat and strained occasionally, but continued to yield a fair amount of milk. About August 9th or 10th she was attacked with a severe diarrhœa, the fœces being exceedingly fœtid, and on August 12th the local veterinarian, Dr. G., was called and made a manual exploration of the vagina, finding the os uteri very small, admitting of the passage of but one or two fingers and quite undilatable. On the 13th of August in consultation with Dr. G., I incised the os slightly, which permitted of free dilation, and the fœtal remains were readily extracted. The first portion of the fœtus to be encountered was the tail, which had resisted to a great degree the process of putrefaction, and in contact with this was found one mass of putrid soft tissues, weighing about two pounds. These were the only remnants of soft tissues discovered and showed presumably that the original presentation had been by the breech. The other contents consisted of bones, almost all of which had separated into their original ossifying centres, the long bones being each in three pieces, etc. The uterus extended abruptly downwards, was firmly contracted on the little mass of fœtal remnants, its walls thick and hard like those of a great abscess wall, which it essentially was, and seemed immovable in

the abdominal cavity. At the inferior end of the uterus some foetal bones were so pocketed in diverticuli that much effort and patience were required for their removal.

Mixed with the skeletal fragments in the most dependent parts of the uterus were found and removed quantities of whole grains of oats and maize. The former must have entered the uterus very recently as the first allowance of oats to the cow was only two or three days before. The existence of the oat and maize kernels in the uterus indicated clearly a communication between it and the alimentary tract and their being whole would lead to the conclusion that the fistula opened into the rumen. The direction of the uterus strengthened this view and the apparent diverticuli in the uterus above alluded to in which bones were incarcerated were probably the uterine mouths of communication, but were so far distant that they could only just be reached with the finger tips and not adequately explored.

The uterus had played the part of a great abscess with the foetus and pus as contents, and a narrow, contracted superior opening, the os, and finally a more effective inferior opening into the rumen. The "pointing" and rupture of this "abscess" apparently took place about Aug. 9th or 10th, 57 or 58 days after the placenta had been seen hanging from the vulva; and doubtless caused the profuse, foetid diarrhoea previously noted. What proportion of the uterine contents may have passed into the rumen and thence evacuated could not be determined, as the various portions of the bony skeleton were almost unrecognizable, but the soft parts must have largely escaped in this way, as none were seen to pass from the vulva except a portion of the placenta in June.

During this entire period, except the brief diarrhoea, the patient had shown little discomfort, as was demonstrated by a regular milk secretion of two gallons per day.

On Aug. 18, five days after evacuating the uterus, her appetite was good and her milk yield increased, though on the previous day she had had an attack of diarrhoea, with very foetid discharges, perhaps due to the passage of more foetal remains which had lain in the digestive tube since our operation four days previously. On Aug. 24th the owner reported steady improvement with occasional discharge of food per vulva.

From that date forward progress toward recovery was unbroken, and during the winter following she was fatted and along with others sold and passed from our observation.

We report this case because we have comparatively few of

this character recorded, and none that we recall where there has been a passage of food into the uterus as well as uterine contents into the alimentary canal. Ruminants, with their high immunity against wound infection, offer almost all the cases of what we might term "maturing abscess of the gravid uterus" ending by the uterine contents discharging finally either into the vagina or the alimentary canal or externally through the abdominal walls.

II. *Rigidity of Cervix in a Cow with Putrefaction and Expulsion of the Fœtus through the Vagina.*

In the preceding article we observed that a putrefying fœtus might ultimately slough out of the uterus in three different ways—through the vagina, the alimentary canal, or through the abdominal walls.

We have no notes on this case, which we observed as a student 24 years ago, and our relation from memory may not prove as accurate in all details as desired.

The patient was of Alderney or Guernsey breed and well pedigreed. She was at about the 7th or 8th month of gestation, when showing signs of œstrum, the caretaker permitted service by the bull. Shortly after—the following day, as I recollect it—the cow was found with the head of a fœtus protruding from the vulva. As the caretaker could not push it back nor readily pull it out, he cut it off and threw it away. The remainder of the fœtus returned into the uterus and the os closed. Later, after a day or two, two veterinarians tried in vain, first without and then with anæsthesia, to reopen the os through which the fœtal head had so recently passed. Failing utterly, the cow was kept in a stall where her progress could be constantly watched.

She seemed none the worse for her mishap until some 10 or 12 weeks later, when the stableman found the putrid fœtal remains behind her, which seemed to close the incident and the cow made an uneventful recovery.

After this long period of gross putrefaction going on within the uterine cavity, that organ must necessarily have become essentially a great abscess, thick, hard and paretic, devoid of any expulsive powers and to be emptied only through the pressure of surrounding tissues or organs. It furnishes a good illustration of the perverseness of the cow's cervix uteri, which had dilated sufficiently to permit the fœtal head to pass through, then closed firmly and resisted all efforts to pass the hand.

The efforts at dilation, however, proceeded from opposite

directions, that from before backwards partially succeeded, that from behind to before failed. This difference is readily recognized in practice generally, and it has been observed that if an instrument can be inserted through the cervix and then enlarged in a cone form and drawn backward, the dilation of the cervix becomes far more effective. The cervix is so long that in pushing forward with the hand or an instrument the organ tends to deflect from the normal line in such a way that the force becomes directed against the side instead of along the line of the cervical canal, and the effort comes to naught.

III. *Torsion of the Uterus in a Ewe, with Transverse Rupture of the Cervix, Putrefaction of the Fœtus and its Sloughing through the Abdominal Walls. Recovery.*

The subject was a medium sized adult merino ewe belonging in a flock of 125. She appeared well so far as observed until about Jan. 1st, 1898, when a tumor about ten inches in diameter appeared in the right side of the linea alba near the umbilicus. The tumor may have existed for some time previously and escaped detection, being partly hidden by the fleece.

About Feb. 1st, 1898, the tumor ruptured and discharged a quantity of fœtid pus and upon examination of the cavity by the owner a hard movable object was felt, the nature of which he could not determine. Some 10 days later the decomposed remains of a fœtus of ordinary size dropped from the opening.

The ewe gradually became convalescent and was making good progress toward recovery when procured for examination. The patient showed a circular opening, about 4 inches in diameter in the abdominal floor, on the right side of the linea alba, and through this opening appeared a hernia-like granulating mass.

The animal was destroyed; the autopsy revealed a fairly well-nourished and generally healthy body with a moderate amount of fat.

The involved parts constitute specimen No. 120, New York State Veterinary College.

The vagina with possibly a portion of the cervix uteri is cylindrical, abnormally firm and ends obtusely at a point two inches anterior to the pubis, and from this there extends downwards and forwards a thin peritoneal fold, soon augmented by the broad ligaments, stretched and attenuated, but intact, and showing midway between the pubis and umbilicus a complete torsion from left to right. No trace of the uterus exists from the above described blunt end of vagina or cervix for a dis-

tance of five inches, where the twisted uterine body appears. In the umbilical region, corresponding to the external opening and firmly adherent to the abdominal floor, was an ovary and a uterine cornu still containing some debris and showing cotyledons.

The abomasum, mesocolon, and two loops of small intestine had contracted adhesions to the uterus and abdominal floor.

As nearly as could be determined the putrid foetus which was discharged from the abscess about Feb. 10, 1898, should have been born in May, 1897, but the uterus having become twisted prior to the completion of pregnancy resulting in a complete transverse rupture of the uterus, rendered birth impossible and the uterine contents having become infected, presumably prior to the parting of the uterus, putrefaction of the foetus ensued, which acting as an abscess ruptured through the abdominal floor after a period of nine months from the date of torsion and rupture.

This transverse rupture of the uterus is one of the untoward results to be apprehended in uterine torsion, since the engagement of the broad ligaments tends to double the uterus upon itself and bring a greater strain upon the vagina, while the torsion itself destroys the equal distribution of the tension upon all parts of the vagina and concentrates it upon certain folds, which yield to the combined twist and longitudinal tension, furnishing a starting point in the transverse rupture, which may ultimately become complete, leaving the uterus as a detached pouch, except for the broad ligaments, and largely robbed of its broad supply.

IV. *Irreducible Uterine Torsion in a Cow.*

Case No. 3861. Patient a medium sized common bred cow, due to calve about March 13, 1902, at which time the owner observed the animal to be uneasy, kicking at the abdomen and otherwise appearing to be in pain. The appetite was poor and the patient lay down more than normal, and gradually became weak and emaciated until we were called on March 27, two weeks subsequent to the advent of symptoms of illness. Examination per vagina at once revealed right uterine torsion. The rolling process was vigorously and patiently applied without result. The animal was then suspended by the hind feet and vaginal manipulations attempted in vain.

An opening was then made in the right flank with a view to grasping the uterus directly and replacing it, but upon incising the peritoneal layer of the abdominal wall we found it firmly adherent to the uterus and that organ immovable.

The cow was destroyed and the examination revealed the uterus adherent by its peritoneal surface to the abdominal walls, the diaphragm, the small intestines, omentum, and mesentery.

The torsion was very firm, and when all external adhesions had been dissected away there was little tendency to untwist. The uterus was of enormous size, at least double the normal, and on incision the wall was found to be very thick, about one inch, dark colored, congested, and cedematous, as though almost necrotic, owing to disturbance of the circulation, all vessels supplying the parts being necessarily involved in the torsion. The uterus contained probably 20 gallons of bloody fluids. The foetus was cedematous but not putrid. The cotyledons were enormously swollen. The foetal membranes were greatly thickened. It seemed to us that the changes recorded, adhesions, congestions, etc., were the result of the prolonged mechanical impediment to the circulation, and we had emphasized in this instance two important factors which may become great or even insurmountable obstacles to replacement of the gravid uterus—adhesions and increased volume and weight.

In this case the adhesions alone were insurmountable, and it may well be questioned if even without this replacement could have been effected with so great a weight and the exaggerated volume which unnaturally filled the abdominal cavity. The question of engorgement of the uterus and its increase thereby in size due to vascular interference has been but little studied, yet it must occur in a measure in every case, because both utero-ovarian and uterine arteries and their veins are involved in the twist and their circulation inevitably impeded.

V. Torsion of the Uterus in a Cow, Reduction, Transverse Rupture of Uterus. Death.

The patient was a pedigreed Jersey cow in good condition and due to calve. Appearing uneasy, but making no progress in calving, we were called in attendance and recognized uterine torsion. The rolling treatment was applied and inadvertently the first turn of the patient's body was made in the wrong direction, which increased the twist. The torsion quickly yielded, the foetus presented normally, and was delivered alive with little assistance. Immediately after delivery the patient showed signs of collapse and examination revealed a large transverse rupture of the uterus. The cow soon succumbed. Some writers assert that in the application of the rolling process an error in direction amounts to nothing except the loss of time and labor. We

believe this is erroneous and are quite of the opinion that in this case, our fatal rupture was due to the sudden increase of the twist as a result of our blunder. It seems certain to us that the congestion and œdema along with the increased weight of the gravid uterus greatly increases the danger from rupture and that in this state any sudden increase in the torsion may precipitate fatal lesions. We conclude, therefore, that the operator should be extremely careful in ordering the direction of the rolling process, and that it should always take place in the same direction as the uterus has turned.

Complicated directions are given by some writers for differentiating between right and left torsion, but to us this seems of minor value. When the rolling process is to be applied and the operator has his hand in the vagina engaged in the spiral folds due to the twist, he needs only to direct the attendants to turn the cow in the same direction as his own hand turns to follow the spiral.

VI. *Torsion of the Uterus in a Mare. Death.*

The subject was a grade draught mare, due to foal two weeks prior to our examination.

At the time she was expected to foal she showed uneasiness and faint labor pains. A local amateur was called at that time, but could not comprehend his inability to insert his hand far into the vagina. Nothing further was attempted until we were called, though the mare exhibited signs of illness, gradually increasing in severity. We found the patient weak, tottering, pulse imperceptible and evidently near to death. Torsion of the uterus was readily diagnosed and the condition of the mare being deemed hopeless she was promptly destroyed and an examination made. The uterus was of enormous size, the foetus emphysematous and about thrice its normal volume, with a large amount of foetid fluid surrounding it in the uterus.

The torsion had existed so long that inflammatory adhesions had occurred in the twisted portion so that replacement would have been very difficult on that account, while the immense weight of the uterus, and its great volume filling so completely the abdominal cavity, presented a second very formidable impediment to adjustment.

Writers speaking of uterine torsion give to the inexperienced a hopeful view. Most cases reported in current literature have proven brilliantly successful. How many failures have occurred which have been passed over in silence?

We have yet to see our first successful case.

THREE ANOMALIES I HAVE MET WITH IN CASTRATION.*

By J. R. SANDERS, M. D. C., Corydon, Iowa.

In reporting these cases I will dispense with a description of the manner of casting, and the mode of disinfecting. I will say, however, that in each case due regard was had for antisepsis.

Case No. I.—Hermaphrodite belonging to Mr. Sager, three miles southeast of Promise City, Ia. This gentleman informed me that he had a mare that would behave like a stallion when in company with mares that were in heat, and, owing to her bad disposition, he was compelled to keep her to herself. May 16, 1902, I had occasion to be in his vicinity. Mr. S. being informed by telephone, soon arrived with the mare, which I observed was a well-formed, muscular animal of the Percheron breed, rather large, dark iron-grey, three years old, and in very good flesh.

Ordinarily one would not suspect another sex in disguise. Closer inspection, however, showed that there was about an equal tendency toward either sex. The udder was large and pendent, resembling a gland that had once been active. There was no commissure in what appeared to be a queerly formed vulva, which rounded off inferiorly to a rudimentary penis, which was pierced with the urethral opening. The testicles could not be located by digital examination, consequently I decided they must be intra-abdominal. The owner requested me to find them if possible, regardless of danger, as the animal was not worth much as it was. For the sake of being brief, I will only say that the animal was cast and operated upon, both testicles being found inside the abdominal cavity close to the abdominal ring and brought to the surface and removed. A good recovery followed.

Case No. II.—Cryptorchid mule. I was called to our county farm April 26, 1898, to castrate a ridgling mule, two years old, medium weight, and in good condition. The left testicle had been removed the year before. The mule was cast and held upon his back by two men. After making an incision opposite the median line the hand endeavored to follow the natural course of the canal. The peritoneum was opened close to the abdominal ring. Two fingers inside, the vas deferens was found without any trouble and brought out. The testicle would not follow. Holding the vas in one hand, I again searched in-

*Read before the 15th Annual Meeting of the Iowa State Veterinary Medical Association, January, 1903.

side the peritoneum as far as two fingers could reach. Not finding the testicle, I thought I would try taking off the vas, which was unusually large. This did not prove a success, for in about two weeks the warden informed me that the mule was as bad as ever and had to be stalled on account of his amorous disposition. He thought the donkey must have had three seeds. Taking his advice I departed at once to remove, if possible, the other seed. Securing the animal as before, I gained the abdominal cavity close to the old wound; with the whole hand inside I soon discovered about half way to the renal organs a mass about the size and shape of a large cocoanut. This was pulled loose from its attachment and with considerable traction brought through the opening. This proved to be a testicle with red surface, indicating recent inflammation, the centre being filled with dark-colored matter, fluid in consistency, which probably made up four-fifths of the entire bulk. Why this gland in its diseased condition influenced its possessor is a mystery. A good recovery resulted.

Case No. III.—Cryptorchid mule, 2 years old, rather large and in good condition, right testicle in scrotum, left intra-abdominal.

Operation took place on the owner's premises, May 28, 1901. The animal was cast and held in position by assistants and the incision made about one and one-half inches to left of the raphé. The canal was followed as near as possible and two fingers entered the abdominal cavity near the ring. After about five minutes search I located an unusually large vas, which was brought to the surface. Traction could not induce the testicle to follow. Thinking I might have a case similar to No. 2, I began to search the abdominal cavity with the whole hand. By following the vas in for several inches I could plainly make out an irregular mass with an osseous formation in the interior. Near this hard part I could feel an attachment to something, presumably the mesentery. A little manipulation with the fingers caused its separation and the supposed testicle brought to the outside and removed. This specimen I have preserved in alcohol and have brought with me; any one thinking it worth while can inspect it. I have never investigated the hard substance. The other I am confident is testicular tissue.

Perhaps I should remark that after the mule regained his feet a loop of intestine dropped out and descended very near to his hocks. Knowing the mule to be of good disposition, as he was raised a pet, I lay hold and suspended the bowel until he was recast, when it was returned and secured by bringing the

incision together with two deep strong sutures, which were removed in 24 hours. The owner informed me two weeks later that his mule never seemed any the worse by the operation.

DISCUSSION.

Dr. C. E. Stewart said that, although he has had a large experience in cryptorchid castration, he has never met with a cryptorchid mule.

Dr. Moyer said he castrated a cryptorchid mule in Illinois some years ago; also that he met with an hermaphrodite equine with external genitals resembling those of the female, from which he removed two hidden testicles.

THREE CASES SHOWING THE USE OF OIL OF TURPENTINE IN THE TREATMENT OF ATROPHY OF THE SHOULDER MUSCLES.*

By Dr. W. A. HECK, Maquoketa, Iowa.

Case No. I.—Small bay mare, six years old, was injured in May, 1900, by pulling a heavy load of corn up a steep hill. The right scapular muscles began to shrink soon after and there was decided lameness. Oil of turpentine was injected at intervals of three inches into the scapular muscles and the animal turned to pasture. Three weeks later there was not much improvement and the injections were repeated. Six weeks later no improvement was visible. It was decided to wait a little longer and allow the mare to run in pasture. Early in September she was caught up and the shoulder seemed to be a trifle improved, which indicated to me that Nature was restoring the muscles without artificial aid. The turpentine injections were repeated. Next day the animal was unable to go out of the barn, owing to stiffness and swelling of the scapular muscles, the swelling extending down the limb to the knees. In three days the soreness and swelling disappeared sufficiently for the mare to be turned into a paddock and she was put to light driving in a week; was used to buggy daily thereafter and the swelling never went out of the shoulder enough to lead any one to suspect that the animal had ever been "sweeneyed." The injections were made by simply putting a twitch on the nose and using no antiseptic precautions whatever except to have the hypodermic syringe and needle afterwards sterilized. At last injection a small abscess formed and when opened about five drams of pus es-

* Read before the 15th Annual Meeting of the Iowa State Veterinary Medical Association, January, 1903.

caped. No treatment was given the abscess and the wound healed in a few days.

Case No. II.—Young black mare, weight 1000 lbs., was brought in fifteen miles to be treated for atrophy of both shoulders. The mare was "sweeneyed" plowing for corn. Both shoulders were injected at close intervals, using $\frac{1}{2}$ dram in each side. Instructed the owner to take her home and turn her into pasture, and informed him that the next day the animal would be swollen some, but that we would have no good results if we got no swelling and cautioned him not to get frightened. Here let me say that it is always necessary to explain to the owner the conditions we may expect in a day or so after the injections. I advised the return of the animal in three weeks for a repetition of the treatment. According to promise, the animal was returned in three weeks, and to my agreeable surprise no treatment was necessary, as the muscles had so nearly filled that I thought there was no need of further treatment. This was a bad case, one of the worst I have ever seen, and the injury had been done only a couple of weeks. No antiseptic precautions were taken and no abscesses resulted. The client was so well pleased that the following year he brought two more horses to be treated for scapular atrophy.

Case No. III.—The third subject was a fine, young, bay express horse, purchased for shipment to Chicago market, suffering badly at the time of purchase from scapular atrophy, but, being such a nice horse, the buyer bought him and turned him over to me for treatment. I injected both shoulders, after washing the parts well with a strong solution of creogen, using about $\frac{1}{2}$ dram of oil of turpentine in each shoulder. In about three weeks the shoulder was very much improved; in fact, it was nearly well. The owner said to me, "he needs only a small dose, just to fill the parts, and before the swelling goes out I will ship him." Accordingly, I sterilized my instruments, scrubbed the shoulders well with creogen solution and injected about one-half the former dose. The horse resisted a good deal and after the injections seemed in great agony, lay down in the stall and kicked and rolled and in a few minutes was covered with perspiration. The shoulder swelled fearfully. In four days abscesses appeared at each point of injection; I think not a single point escaped. These abscesses were opened and syringed daily, and healed in a few days, but the muscles did not fill as satisfactorily as with the former injection. Six weeks have elapsed and still the shoulders are somewhat shrunken and the owner is

afraid to repeat the treatment, and I myself am nearly so, and he is such a fine horse I hesitate to apply a counter-irritant to the parts.

These three cases illustrate the success I have had with this therapeutic agent in these troubles, and, until I find a better treatment, I shall continue to use it.

FRACTURE OF THE RIBS IN A HORSE.*

By WILLIAM DRINKWATER, V. S., Monticello, Iowa.

In the early part of the summer of the past year a farmer brought to my place of business a brown gelding with a large swelling on the left side of the thorax, extending from about the right rib to the twelfth and from about the ends of the ribs where they are extended by cartilage to the sternum to eight inches above. The history of the case was that in the winter—which was a year previous to the past one—the horse was kicked by another. It did not seem to suffer from it for some time and did its share of the summer's work, but the past winter the owner said it got the heaves from food of a poor quality.

On the surface of the swelling were several nodules that were about ready to discharge. I made an opening in one of the more prominent ones and it discharged a quantity of serous fluid. I then explored with the fingers the various recesses of the swelling for pieces of ribs or any dead tissues, but found only a blood-clot, and the part bled freely, probably from the subcutaneous veins.

After clearing out the cavities I packed them with cotton saturated with a solution of copper sulphate, zinc sulphate, and lead acetate, one ounce of each to a quart of water. My thoughts at that time were that an astringent and caustic would stop the hæmorrhage, which it did in a few minutes, and also cause some slough and in that way reduce the enlargement. The horse was led home and brought to me again in a few days and the swelling was reduced in size. The owner said the horse had been failing and becoming useless and was not improving. I removed the cotton packing and cleansed the cavities and filled in again with cotton and the solution. He was brought again in a few days, seeming a little better in spirits, but the parts affected and his breath were giving off a sickening odor. He was left in my care and I washed the cavities daily and injected

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the solution and packed, but the horse would not eat much of the grass and oats offered him and weakened, so I sent word to the owner to take him home before he died. When the owner arrived next morning the horse was dead and we made an arrangement with a man to take the carcass out and take off the hide and let us examine the seat of the difficulty.

We found a mass of tissue being formed around an opening into the thoracic cavity where three ribs had been broken in. I removed one piece of rib three inches in length which was lying loose. The other parts were crumbled to small pieces and some pus was found in the cavity. A thickened membrane was formed to protect the lung and the lung itself was discolored and hardened along its lower border, which I believe accounted for the heaves or broken wind condition. If there had been an operation and a thorough clearing of the lesion at a proper time, could it have resulted in relief to the patient?

NEUROSIS.

By F. R. WHIPPLE, M. D. V., Kewanee, Ill.

My subject is a roan mare, six years old, which with mate took the blue ribbon at our county fair last fall, in the driving team class. During the winter the team has done very little work. About January 1, 1903, while the owner was driving them one very suddenly began shaking its head, pulling very much on the lines, and very nervous. Always before she was a little slower than her mate, but now she takes the lead. After driving her several times, the owner thought her teeth were the cause of the trouble. I was called to examine them, and found small projections, on each lower sixth molar, which were removed and all the teeth floated. I informed the owner that I thought the trouble was of a nervous origin. The mare was driven several times after floating, but she was no better, when I was again called. I placed a mouth speculum in position and examined all the molars, and all appeared to be sound. I noticed while rubbing over the location of the superior maxillary branch of the fifth pair of nerves at its exit from the infra-orbital foramen, that she was very quiet and hung her head as if it relieved her pain. This was about January 25th, and I placed her under treatment. Having divided the nerves in one case before without happy results, concluded to rely on drugs.

I applied cantharides ointment (1 to 6) over the nasal bones, and gave the following mixture:

- R Potass. iodide,
 F. E. Gelsem.,
 F. E. Nux vom., āā ̄ i,
 F. E. Rhus radicans, ̄ ij,
 Aquæ, q. s. ad ̄ xii.
 M Sig. ̄ ss. three times daily.

Soon a steady improvement set in, and in about four weeks there was complete recovery. The mare now drives in her old-time form. Dr. Hanawalt, of Sheffield, Ill., saw the case and confirmed my diagnosis.

CLITORIDECTOMY AND ITS SEQUELÆ.

By FRANCIS ABELÉ, Jr., Quincy, Mass.

The October number of REVIEW had in "French Review" an article on "Cancroid of Clitoris." Description was complete, operation well described, but it was like a hospital operation seen by a visiting student. The operation is successful, but he never knows the result.

I had a similar case July 13, where mare was too ticklish to be useful. Removed by ligature and knife, yet gave doubtful prognosis. Mare was put back to work, did well; treated daily with bichloride wash. September 14th, or just two months later, tumor was large as before, and just as troublesome.

THE THOROUGHBRED IN GERMANY.—According to the "German Racing Calendar," a Government publication, there are only 800 thoroughbred mares registered in the German Empire for breeding purposes, and of these more than 25 per cent. proved barren last spring. These figures, while they do not indicate any great measure of thrift in the breeding of thoroughbreds in Germany, are a vast improvement on those of former years and show that the impetus given to the breeding of thoroughbreds by Count Lehndorf is gaining headway to the end that more real blood may be injected into the horses of the Teutonic Fatherland.—(*Breeder's Gazette.*)

POLO has been listed among the sports and pastimes at Yale and Harvard. Both universities will have teams in the field this season, which will shortly open, and it is related that graduates will be eligible to play as well as students actually attending the colleges until the game becomes fixed on a solid basis at both. The intercollegiate polo matches between Oxford and Cambridge in England are annual fixtures which excite a great amount of interest and there is every reason to believe that polo will become quite as popular at Yale and Harvard as in the ranking schools of Britain.

EXTRACTS FROM EXCHANGES.

BELGIAN REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

PARALYSIS OF THE PHARYNX IN THE HORSE [*Prof. Hendrickx*].—Judging from the records in veterinary journals, this affection must be rather rare. Its symptoms are not alike in all cases. For some it is due to paralysis of both laryngeal and pharyngeal muscles; for others only the pharynx is affected, and again in some cases it seems to be preceded by an inflammation of the mucous membrane, while it may also occur suddenly in animals which to that time had not seemed seriously ill. The following is interesting for its manifestations, although the origin of the disease could not be made out at the post-mortem. Unfortunately, the brain was not examined, as it might explain all. A colt, two years old, suddenly stops eating; he coughs and throws up part of his food through his nostrils. The subglosseal glands are a little enlarged and he has bilateral salivary discharge. He chews his food well, but as the alimentary ball is to pass in the œsophagus he has a slight motion of the head and a large quantity of the well-masticated food returns by the nostrils. The pulse is normal, temperature slightly raised; pressure on the parotid region is not painful. There seems to be no trouble of the œsophagus, no foreign body, no stenosis of the organ, no œsophagismus. All those are excluded by careful examination. The diagnosis of paralysis imposes itself, and the prognosis is extremely serious, notwithstanding the severe treatment prescribed. After a few days, the dysphagia increases, symptoms of dyspnoea occur several times, loss of flesh takes place rapidly, symptoms of pulmonary complications appear and the animal dies with gangrenous bronchopneumonia. At the post-mortem pulmonary lesions were found; the nasal cavities were filled with regurgitated food, slight erosions on the mucous membrane made by the food, some on that of the pharynx, pharyngeal muscles normal. Retro-pharyngeal glands are the seat of an abscess as big as a pigeon's egg. Other organs healthy.—(*Annales de Bruxelles*.)

EPISTAXIS DUE TO A FRACTURE OF THE INFERIOR MAXILLARY [*Zwaenepoel*].—The causes of epistaxis are numerous and vary much. The following case gives another of great interest:

An animal refuses his food, and when manipulations are made to examine his mouth he shows great pain, struggles and rears. A slight cedematous swelling is observed over the right temporo-maxillary joint. Pressure upon this spot is very painful. The incisive arches are no longer in perfect adaptation; the lower jaw is deviated to the right about half a centimeter. There is crepitation. The diagnosis is positive. No bandage, no external application; liquid diet is prescribed. After a few days the deviation of the jaw is more marked and the left lower corner tooth corresponds to the superior divider of the same side. At that time also occurred the epistaxis. The hæmorrhage is bilateral, specially abundant when the animal chews his food and has the head down. The flow of blood stops almost instantaneously as mastication ceases. After two weeks from the apparition of the hæmorrhage, the animal died. At the post-mortem, besides lesions of lobular pneumonia by foreign bodies, are found those of the fracture, which explained the epistaxis. The condyle of the maxillary was crushed, the coronoid process pushed in the crotaphite muscle; between these bony pieces some thirty splinters were implanted in the pterygoid muscle, some having in several places punctured the internal maxillary and the pterygoid veins; others were protruding through the guttural pouches, which were filled with blood. During life and during mastication the blood flowed more or less in the guttural pouches, hence the epistaxis.—(*Annales de Bruxelles.*)

NERVOUS TROUBLES BY PRESSURE OF THE SPINAL CORD FOLLOWING A CERVICAL LUXATION IN THE HORSE [*Prof. Rubay and Assistant Navez*].—The subject was a six-months-old filly which was found one morning with her head down, staggering walk, and unable to raise the neck or move it sideways. She remained for two months in that condition, then came an atrophy of the superior cervical region, and on the middle of the neck came a hard painless tumor, projecting evenly on both sides. Then some improvement took place in the motions of the neck, but walking grew worse, and, being considered incurable, the filly was turned over to the veterinary school of Bruxelles. She remains lying down, in lateral decubitus, and seems without pain. She rises with great difficulty, and when she is standing the neck is carried low down, the head almost on the ground, ears drooping backwards, legs in abduction, the front ones wide apart and resting on the toes. The tumor of the neck has the size of a man's head and is produced by a deviation upwards of the lower curvature of the cervical

portion of the vertebral column. The superior cervical muscles are atrophied, the inferiors hard and retracted. The olecranon muscles, those of the anterior antibrachial region, are soft and flabby, while those of the posterior are hard and contracted. The dorso-spinal seem free from trouble, but present strong spasmodic contractions when they are percussed. Displacements are very difficult; the animal staggers; movements in circle are more difficult; going backward is impossible. No other disturbance exists in all the other functions except that at rest, the respiration is slow and that the double respiration of heaves is much marked, occurs immediately after respiration. The voice is modified, less clear and less vibrating. Both pupils are dilated. Taking all the symptoms into careful consideration, a diagnosis of probably myelitis or sclerosis of the antero-lateral fasciculi of the cord, due to slow pressure, was made. At the post-mortem it was found that between the fourth and seventh cervical vertebræ the neck formed an arch with its concavity turned downwards: the vertebral bodies, although deviated, are perfectly intact; only two intervertebral menisci are ruptured. Meninges are not altered; the cephalo-rachidian fluid is in normal quantity. On the level of the deviation, the marrow is slightly depressed, normal in color and consistency; no alteration is observed in transversal sections. Nothing abnormal in the other parts of the cord, nor in the brain. The roots of the nerves are normal. There was atrophy of the superior cervical muscles with some hæmorrhagic centres. The other muscles, nerves of the brachial and pelvic plexuses are normal. Thoracic and abdominal organs healthy with the exception of a large verminous aneurism of the great mesentery. The conclusions of the writers are that: First, simple pressure of the cervical spinal cord may give rise to troubles excessively serious; second, slow pressure of the cord is not always manifested by paraplegia; it may also assume the form of *paralysis with contractura* as is found in man; third, one may exceptionally observe the double expiration of heaves, when the centrifugal portion of the respiratory reflex circuit is injured, without any pulmonary lesion; fourth, troubles of the voice exist when the centrifugal cerebral tract is injured in front of the point of origin of the phrenic nerves. —(*Annales de Bruxelles*).

THE number of students at the Milan veterinary school for the present year is 131—29 first year, 24 second, 43 third, and 35 fourth.

ITALIAN REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

A CASE OF COMPLETE FRACTURE OF THE TRACHEA IN A HORSE [*Dr. Goffredo Cassai*].—All solutions of continuity of the trachea are due to traumatism, and, although this may vary in nature and in the lesions that follow, their prognosis is almost always serious. The following case is one of exceptional interest in all its particulars, and its results were most satisfactory. Ridden almost bare-back by a young man, a five-year-old horse came in contact with an obstacle on the road he was galloping over, and he and his rider were thrown down. The horse only was severely hurt, as he laid down, unable to rise by himself, and had to be assisted to get up and be led to a blacksmith shop close by. When he got up he had a few severe spells of coughing, followed by the expulsion of blood through the nose and mouth. The blacksmith did all he could to help him, washings, injections, frictions, even purgation, but as the animal seemed to be in great pain, his respiration becoming difficult, and a swelling appearing on the inferior part of the neck, the author was then sent for. After 18 hours from the time the horse was injured he was found in the following condition: Lying under a little straw, the animal seems dying; made to rise, he stands with his fore legs apart, the hind ones engaged under the abdomen; the head is carried low down near the ground; the tongue protrudes from the mouth; the eyes almost out of the orbits. On the superior third of the inferior border of the neck there is a swelling, soft in its centre and in which motions rhythmic with respiration are observed. Inspiration is deep, respiration shorter and followed by a rattling noise. The flanks are accelerated and irregular in their motions. No external mark of traumatism is visible anywhere, but on manipulation of the neck a complete fracture of the trachea is recognized with a separation between the fractured ends of five or six centimetres. The skin and the tissues underneath are the seat of a large emphysematous swelling, which interferes much with the respiration and asphyxia is threatening. Danger is pressing, and tracheotomy is performed some 20 centimetres further down the neck. As soon as the tube is in place, relief is manifest, respiration is relieved, four or five spells of coughing with bloody foaming mucus take place, and the flanks resume their normal motions. At that time the tem-

perature was 42.2° C. On account of the late hour in the day, the animal was made comfortable, secured so as to prevent his injuring his wound and left for the night. On the following day, 5 A. M., the reduction of the fracture took place. This consisted in an incision of 18 or 20 centimetres made over the seat of the injury, dissection of the subcutaneous muscles and exposure of the tracheal fragments. They are 6 centimetres apart, oblique, and involving four of the rings, the 6th, 7th, 8th and 9th the highest point formed by the 6th rests on the oesophagus, the lowest by the 9th is on the inferior border of the neck. With two strong sutures, one on each side, the fragments were pulled, brought and secured together; eight other smaller wires were applied all round, sewing the fragments of rings as closely together as possible. The skin was closed with sutures, a drain tube put in and an antiseptic dressing put on. The case went on with little trouble. Careful diet, attention to the wound, scarifications to relieve the emphysema, which once or twice assumed serious conditions, and after scarcely a month the animal was convalescent and soon able to resume his work. It had, however, been found necessary to have the horse carry a permanent tracheotomy tube. It had been taken out once, but threatening suffocation imposed its reintroduction. The horse worked with it for several months. One day while in harness he lost it and died asphyxiated on the road.—(*Il Nuovo Ercolani*.)

DISTOKIA IN A SOW [*Dr. Goffredo Cassai*].—This is undoubtedly a case of great interest by its duration and the power of resistance exhibited by the young mother. It relates to the history of a year-old sow, which on April 6th, 1902, was taken in labor. The first foetus delivered lived after much difficulty and free use of oil and vaseline to lubricate the parts. An hour later a second foetus presented itself by the hind extremities, and also a third; these two were extracted dead. After a short time of comparative rest, the sow expelled a small sac, the placenta, containing a fourth foetus of much reduced size, and mummified. Was it all? No. Two more foetuses were again removed after a while, both alive and had to be fed with cow's milk, as the sow had no colostrum. The mother then seemed to be quiet and comfortable, but towards the middle of the night, she again had parturient pains and another dead foetus was expelled. After more than thirty-six hours pains returned again and on exploration of the vagina and uterus, another foetus was detected partly engaged, but kept back because of the swelling of the

parts. This had to be removed by embryotomy. And finally another was extracted in the same manner some twenty hours after. Notwithstanding all this suffering and the excessive pains the mother had to support, her recovery was complete, after a length of time, which was shorter than that of the delivery, this having lasted seventy hours, from the morning of Sunday to the following Wednesday.—(*Il Moderno Zoöatica.*)

INTESTINAL FOREIGN BODY IN DOG—LAPARO-ENTEROTOMY—RECOVERY [*Dr. E. Morelli*].—It is certain that all cases of similar interference do not always recover, and for this reason when they occur they ought to be recorded. In December last a slut was suffering with loss of appetite and vomiting. She also revealed by abdominal palpation the presence of a hard avoid substance in the abdomen. The treatment prescribed did not seem to relieve her, and she grew worse. She was then brought to the clinic of the Veterinary School of Pisa, when the diagnosis of a foreign body was confirmed, its presence being detected in the left flank and somewhat towards the left sub-lumbar region. The case was urgent and operation advised and performed at once, without chloroform on account of the excessive weakness of the patient. The abdomen being opened by Prof. Vachetta, he searched for the portion of the obliterated intestine, brought it out and extracted a pit of peach, which was the cause of the trouble. The intestines and the cutaneous wound were closed with sutures and an antiseptic bandage applied over the parts. Absolute diet was prescribed for three days. There was no reactive fever, no suppuration and in ten days cicatrization was complete.—(*Il Nuovo Ercolani.*)

BOVINE CYSTICERCI ON THE MARKET OF TRIESTE [*Giovanni Spadiglieri*].—Having had charge of this market for over twenty years the author had not observed one case of cysticercus in bovines up to the end of Sept., 1902, with perhaps the exception of one case in 1887. But having observed since 1902 that the cases were reported from different parts of Germany, Austria, and Italy, he began to have closer researches made, and finally, at the end of Dec., 1902, the parasites had been found 221 times in 8860 male cattle, and 4 times out of 824 cows. The frequency and the different structures in which cysticerci were found are recorded as follows: 137 times in masseters, 101 in the sublingual gland, 48 in the sterno-maxillary, 42 in the lips, 39 in the muscles of the thigh, 38 in those of the back, 36 in the lumbar muscles, 32 in the sub-scapularis, 31 in the heart, 26 in the tongue, 16 in the diaphragm, 16 in the pectoral mus-

cles, 7 in the intercostals, 4 in the subcutaneous, 3 in the tail. In the cases where the parasites were few and situated in the head, say masseter or pterygoid muscles, tongue or cervical muscles, the meat was allowed to be used after salting. When they were in great number and spread all over the body, the carcasses were cremated.—(*Clinica Veterin.*)

SEDIMENTOUS CALCULI OF THE URETHRA IN STEERS—PERFORATION OF THE BLADDER [*Dr. Umberto de Mia*].—In December, 1900, the author was called to advise for a steer which had difficulty in urinating, and in January, 1901, was urgently requested to attend to him, as he presented alarming symptoms. As the symptoms presented by the animal had returned on different occasions, and as the ischuric troubles were rather characteristic, a diagnosis of urethral calculus was made and urethrotomy performed in the usual way, back of the scrotum. The calculus was readily detected by the introduction of a fine catheter, and it was found that the urethra was largely dilated and the stone well adherent to it. The animal was ordered to be slaughtered. At the examination of the carcass, the author found the urethra and the bladder highly inflamed; the former contained two calculi, one sedimentous, measuring 7 centimetres in length and 0 cm. 5 in width; the other was spherical, and situated some distance from the first. At the bottom of the bladder and also on the external surface there was a purplish patch, with a small ulceration in its middle, from which urine was escaping day by day. The coats of the bladder were diseased and covered with sedimentous deposits.—(*Il Nuovo Ercolani*.)

CONTAGIOUS SCRATCHES (?) IN CATTLE [*Dr. Umberto de Mia*].—Under that name the author describes an affection that he has observed during the summer of 1896 and spring of 1897, which he attributes to contagion, as having not information upon the mode of feeding and the hygiene of the animal, he thought of the opinion expressed by a French veterinarian for scratches in horses. The disease described by de Mia affected most of the animals of the region; it was localized to the folds of the knee, hock and fetlock, and manifested itself by a serous exudation followed by scabs. There was much swelling, heat and pain. Ordinarily only one joint was affected; sometimes, however, the disease appeared at the hock and to the knee. In some animals there came a complication of paralysis of the hind leg, followed by death. The duration of the disease was in the average of 30 to 60 days. Recovery was very common, by the simple use of baths of creolin at 3% and applications of creolined ointment, 1 part in 10.—(*Il Nuovo Ercolani*.)

ARMY VETERINARY DEPARTMENT.

This new REVIEW department was opened in the March number, and its object was there explained—the betterment of the Army Veterinary Service, through affording a forum for the discussion of subjects in which army veterinarians are deeply interested, and which are at the same time of interest and value to veterinary readers generally. The profession, and particularly army veterinarians, are invited to contribute communications, original articles, items of news, etc.

TO BE EFFECTIVE FOR GOOD, MILITARY VETERINARIANS MUST
HAVE SUPREME CHARGE OF ANIMAL DISEASES.

A correspondent in the Philippines has forwarded the REVIEW the following communication under date of Feb. 24, 1903:

“Receiving to-day the enclosed Circular, No. 6, Headquarters Division of Philippines, brings up the question as to whether military veterinarians should not, for the benefit of the public service, be allowed more authority and scope in regard to the veterinary management of animals entrusted to their charge. Circular No. 8, third indorsement, War Department, Surgeon-General's Office, Sept. 29th, 1902, also states that ‘surra’ is caused by the parasite being taken into the alimentary canal with wet native grasses. During Oct., 1901, one of our army veterinarians sent in a communication through military channels, to the Adjutant-General, Division of Philippines, requesting that the use of native grasses as forage to American animals be stopped, which was referred to the Chief Surgeon of the Division, who placed it in the hands of Capt. Allen Smith, Assistant Surgeon, U. S. Army, in charge of the Army Bacteriological Laboratory at Manila, P. I., for remarks, which were partly as follows:—‘Captain Allen Smith does not believe that native grasses have anything to do with causing the disease. Hypodermic doses of quinine will cure it, etc.’ A pamphlet upon a new parasitic disease of animals, by Capt. Smith, was also issued, which stated that the disease might be caused by slugs or flukes which attack the liver of horses, etc.

“In the veterinary communication referred to the disease was termed ‘surra,’ and it was asked that the grasses be stopped as

a preventive, as a great number of animals had died from it. Of course, endorsement as above caused it to be returned to the writer for his information, and no further official notice was taken of it.

"General Sumner, who was in command at that time, ordered Dr. Coleman Nockolds to send in a full report on the disease 'surra,' which he did, using every reference available, and giving his observations on 'surra,' which had been raging in his district for nearly a year. Soon after that a circular was published by Captain Smith, this time calling the disease 'surra.' Since that time the veterinarians have repeatedly requested that grasses be stopped and that swampy water be avoided, explaining that one phase of the life of the hæmatozoon was passed in water and could be taken into the stomach of animals with the wet grass, etc.

"This particular instance is mentioned as up to the present time veterinary advice has been disregarded in favor of people that certainly have not had the advantage of a veterinary education, with the result that since the time that the veterinarians pointed out the danger of feeding grasses about half a million dollars have been lost through horses dying of 'surra,' and which certainly could have been prevented here as well as in India. We have an advantage over the Indian government in that there has been always plenty of American-made hay at hand in these islands. For a further account of the endorsement back to Dr. Allen Smith reference is made to the *Veterinary Journal* (October, 1902), and if necessary all reports on 'surra' can be obtained at the Adjutant-General's office.

"It seems that this matter should be brought before the Army Committee of one of the veterinary associations, as these conditions must remain until the veterinarian is given different status, with sufficient power to handle his own particular branch of the service.

"It may be mentioned that the note under asterisk, in October, 1902, *Veterinary Journal* is not correct, although a few animals improved under the arsenic treatment—enough to return to duty. They all finally died from 'surra,' which is incurable."

* * *

Since the above communication was in type the following was received from Dr. Olof Schwarzkopf, which emphasizes the grave error being committed by the War Department in entrusting these matters to men who are totally unqualified by

education to deal with them, and through their blundering causing great financial loss to the country. Hard as it may prove to the dignity of army officers, sooner or later they will be forced to recognize the sovereignty of the educated military veterinarian, who alone should have absolute authority in such matters. The Army Committee of the A. V. M. A. will do well to secure the material here furnished as ammunition for their next attack upon Congress to force the army veterinarian to his proper rank and authority.

According to the *Army and Navy Journal*, Brigadier-General Theodore J. Wint, U. S. A., Manila, P. I., with an aide-de-camp, and Major Ramsay D. Potts, Inspector-General's Department, U. S. A., have been ordered to proceed to British India to investigate and report upon the methods of the English army in dealing with "surra" among horses.

This is quite interesting news to army veterinarians, and we ought to be permitted to comment upon it. Nothing can be said against the detail of General Wint for this purpose, as he is a former cavalry officer of large practical experience, and a friend of the army veterinarian, so that we can feel consoled as to the choice of the person. But may we not justly ask why such action has become necessary at all? When, two years ago, Congress was asked to provide for an efficient army veterinary service, abusive criticism was heaped upon the position of the army veterinarian, and we were arraigned for the audacity to ask that we be made commissioned officers with a few ranking as captains and majors. Did not Senator Grosvenor say at the time on the floor of the Senate: "You might as well give rank to the man who carries the colonel's horse"? And now it takes a full-fledged brigadier-general to investigate a horse disease.

However, this question may be sentimental. The practical side of it can certainly be far-reaching. Perhaps it takes just such dire demonstration as the ravages of "surra," perhaps several such calamities, to awaken in the minds of our authorities the necessity of having an intelligent and useful veterinary service. Hence it is interesting to calculate what the result of such investigation will be. It cannot be much different from the advice given by the calmer and more experienced army veterinarians in the Philippines, that it was useless, and certainly wasting valuable time, to search for a remedial cure for this disease on account of its peculiar causation, but instead to go ahead

and enforce the principles of preventive hygiene by which alone such devastating diseases can be stopped, in our present knowledge of scientific medicine. One of the fundamental recommendations was to discontinue the feeding of swamp-grass; but this was not approved in Manila, and instead all sorts of useless directions were spread broadcast, some of which bordered on humbug, with results too painful to tell.

Let us hope that the mission of General Wint will be fruitful of showing to our military authorities that there exists a military veterinary science, and that its practical application can only be performed by educated army veterinarians, a fact which will constitute another stepping stone towards the ultimate creation of an organized veterinary service in our army.

(O. S.)

INQUIRIES AS TO ADMISSION FOR THE MILITARY SERVICE.

One unexpected result of the opening of the "Army Veterinary Department" in the REVIEW, has been the receipt of inquiries by young veterinarians as to the requirements for admission to the military service. It would not be proper for us to reply to such inquiries, as they might be looked upon as authoritative by the recipients. Candidates must make application for examination to the "Secretary of War, Washington, D. C."

However, in order to give an idea of the requirements, we may copy an answer to a similar inquiry published in the *Army and Navy Journal*, June 30, 1900, which may be looked upon as coming from proper authority. It states:

"The examination for army veterinarians consists of a physical, theoretical and practical examination. The physical examination is made by an army surgeon under the rules governing enlistment for the Army. The theoretical examination is competitive. The basis of the examination is English grammar, arithmetic, geography and history, and the subject of the examination is anatomy and physiology, pathology, practice of medicine, descriptive and operative surgery, materia medica and therapeutics, sanitary medicine, conformation of the horse, examination for soundness, horse-shoeing, meat inspection, veterinary hygiene—general feeding, watering, stabling and care of animals in garrison and field, saddling, biting, packing, etc.—aptitude and probable efficiency. The practical examination consists of tests of riding a horse in walk, trot and gallop, and of saddling a horse."

We may add that the personality of the candidate is carefully observed, and that the theoretical examination is all in writing, sealed questions being given to the candidate. The time consumed for the examination has generally been nine days, and it is undertaken at the nearest military post of the applicant. He

has to pay his railroad fare and provide for his living expenses during the examination. _____ (O. S.)

VETERINARY ESTABLISHMENT OF THE GERMAN ARMY.

- Prussia.*— 17 inspecting veterinary surgeons (Corpsesärzte).
 1 inspecting veterinary surgeon attached to the School of Farriery at Berlin.
 146 first-class veterinary surgeons (Oberrossärzte).
 5 first-class veterinary surgeons attached to Military Veterinary School, Berlin.
 4 first-class veterinary surgeons attached to School of Farriery, Berlin.
 27 first-class veterinary surgeons attached to Remount Depôts.
 201 veterinary surgeons (Rossärzte).
 6 do., attached to School of Farriery, Berlin.
 153 assistant veterinary surgeons (Unterrossärzte).
Saxony.— 2 inspecting veterinary surgeons.
 4 first-class do. do.
 3 do. do. do. Remount Depôts.
 18 veterinary surgeons.
 2 do., School of Farriery, Dresden.
 16 assistant veterinary surgeons.
Wurtemberg.— 1 inspecting veterinary surgeon.
 8 first-class do. do.
 1 do. do. do. Remount Depot.
 10 veterinary surgeons.
 8 assistant veterinary surgeons.

The numbers in the Bavarian army are not given.—(*Berliner Thier. Woch.*)

IN a paragraph headed "How Animals Die," the *Paris Journal of Medicine* says it is the habit of cats and dogs at the moment of death to expire in some corner far from their habitual domicile, doubtless the practice of these creatures in the wild state. Rabbits leave their burrow of their own accord, and not, as is said, driven out by their fellows. Dying birds fly the light of day and seek the darkest retreats. This explains why we do not see dead birds in the pathways of public gardens.—(*The Zoöphilist and Animals' Defender.*)

BUREAU OF ANIMAL INDUSTRY.

PROMOTIONS OF VETERINARIANS DURING THE YEAR 1902.

From \$2,250 to \$2,500.—Dr. John R. Mohler, Chief of Pathological Division, Washington, D. C.

From \$2,000 to \$2,250.—Dr. O. E. Dyson, inspector in charge, Chicago, Ill.

From \$1,400 to \$1,600.—Dr. Joseph B. Clancy, National Stock Yards, Ill. (Placed in charge of station.)

From \$1,400 to \$1,500.—Drs. Leslie J. Allen, Oklahoma City, Okla.; Thomas Castor, Trinidad, Colo.; C. H. Davies, Kansas City, Kans.; Charles M. Day, Sidney, Iowa; H. H. George, Kansas City, Kans.; A. A. Holcombe, Aurora, Ill.; G. A. Johnson, Sioux City, Iowa; W. H. Smith, Jr., Chicago, Ill.; Walter J. Stewart, Chicago, Ill.; B. P. Wende, placed in charge, Buffalo, N. Y.

From \$1,200 to \$1,400.—Drs. H. M. Ball, Buffalo, N. Y.; H. M. Batchelder, South Omaha, Neb.; E. L. Bertram, Chicago, Ill.; Herbert Caldwell, Milwaukee, Wis.; E. T. Davison, placed in charge, Rushville, Neb.; Arthur R. Glaisyer, Spokane, Wash.; Joseph M. Good, inspector in charge, Dayton, Ohio; John S. Grove, Kansas City, Kans.; H. J. Hammond, Amedee, Calif.; John J. Hayes, Chicago, Ill.; Daniel S. Hays, Boston, Mass.; R. W. Hewett, Philadelphia, Pa.; John B. Hopper, New York, N. Y.; George T. Irons, South St. Paul, Minn.; Raymond Johnson, South St. Joseph, Mo.; Louis A. Klein, Fort Worth, Texas; Clarence Loveberry, inspector in charge, Seattle, Wash.; Albert Long, Boston, Mass.; Frank C. McCurdy, South St. Joseph, Mo.; Monroe B. Miller, New York, N. Y.; George Byron Morse, Washington, D. C.; B. W. Murphy, Jr., South St. Joseph, Mo.; Wesley N. Neil, inspector in charge, Waterloo, Iowa; Isaac W. O'Rourke, Reno, Nevada; James L. Otterman, Kansas City, Kans.; Charles F. Palmer, Indianapolis, Ind.; John O. F. Price, National Stock Yards, Ill.; Henry Roome, Sioux City, Iowa; H. R. Ryder, Buffalo, N. Y.; William G. Shaw, Nogales, Ariz.; Daniel G. Shumway, South St. Paul, Minn.; John A. Sloan, South St. Joseph, Mo.; Herbert M. Smith, Louisville, Ky.; Nathaniel B. Smith, Billings, Mont.; F. L. Stevens, Boston, Mass.; A. W. Swedberg, Kansas City, Kans.; Joseph J. Thackaberry, New York, N. Y.; Norris L. Townsend, Helena, Mont.; A. H. Wallace, San Antonio, Texas; Thomas White, Douglas, Wyoming; Alexander E. Wight, Boston, Mass.; Warner W. Worcester, Des Moines, Iowa.

OBITUARY.

WILLIAM HENRY FAIRBANKS, D. V. S.

We regret to announce the death of Dr. Fairbanks, graduate of the American Veterinary College, class of 1887, which occurred the first week in March at his home in Winthrop, Maine, from a lesion of the brain. The deceased had practiced both in Winthrop and in Augusta, and was about 60 years of age.

COLLEGE COMMENCEMENTS.

KANSAS CITY VETERINARY COLLEGE.

The annual exercises were held in the Pepper Building, Kansas City, Mo.; on Thursday evening, March 12, and there was a large attendance of friends of the college and of the graduates.

The Rev. T. D. Roberts offered the invocation, after which Miss Stella Ruth rendered "The Midnight Fire Alarm" as a piano solo, and Miss Agnes Eagle sang very effectively. The faculty address was delivered by the Rev. Paul B. Jenkins, after which Miss Laura Wellener sang "The Swallow."

Dr. R. C. Moore, of the faculty, then presented diplomas to the following graduates:

J. Flue Barnett, Atvill Byrd, Arthur T. Coleman, Charles M. Crandall, Thomas J. Eagle, James E. Ellis, Frank L. Kampschmidt, Clarence A. Krause, Edward C. Lahr, Milton C. Lint, George W. Merker, George B. Nicholas, Irvin Owens, Charles Pearson, Rube P. Poage, George J. Roach, Guy A. Roberts, Adolph Ruth, Dale E. Sawyer, Henry J. Sebaugh, J. Harvey Slater, Lee C. Songer, Walter Sorrell, James M. Tade, John F. Tippet, Laomer West.

The class response was delivered by Dr. Charles Pearson, after which the musical programme was continued by Mr. A. L. Bailey, Miss Mabel Hax, and the Misses Norvel.

The class of graduates of 1903 numbers 26, the largest in the history of the college, which is in a general flourishing condition.

ONTARIO VETERINARY COLLEGE.

The closing exercises took place March 25, at the college, Principal Andrew Smith presiding, supported on the platform by the Mayor, Dr. J. G. Rutherford (Chief Veterinary Inspector of Canada), Col. Lloyd, Dr. Cowan, Dr. Brenton (of Detroit,

Mich.), Dr. J. F. Duncan, Profs. Lang and Amyot, and Dr. D. King Smith. Addresses were delivered by all those occupying seats on the platform, that by Dr. Rutherford being very instructive, interspersed by amusing anecdotes. He graduated from this school twenty-four years ago. Dr. Brenton, who took his diploma the year following Dr. Rutherford, said that as proof of his confidence in his alma mater he had the pleasure of witnessing his son's graduation on the present occasion. There were more than one hundred graduates, as follows:

A. E. Bowman, St. Thomas; Wm. Boyd, London; G. W. Brashear, Newtown, Ky.; W. L. Brenton, Detroit, Mich.; A. W. Busselle, Guelph; A. H. Chamberlain, Lexington, N. Y.; D. H. Chase, Flint, Mich.; J. T. Chorlton, Providence, R. I.; G. A. Coates, Port Perry; John Coyle, Wilmington, Ohio; H. J. Culp, Orangeville; W. E. Coover, Muncie, Ind.; A. P. Drew, Providence, R. I.; L. A. Evans, Sawyerville, P. Q.; Wm. M. Evans, Elizabeth, N. J.; J. M. Fawcett, Drayton; Alberto C. Fernandez, Buenos Ayres, Argentine; F. J. Fischer, Petersburg, Va.; D. B. Fraser, Forest; C. J. Gillen, Ottawa, Ill.; W. E. Grace, Toledo, Ohio; J. A. Graham, Elkhart, Ind.; J. W. Haffer, Paterson, New Jersey; F. Narburn, Mitchell; Wm. J. Hartman, Ladner, B. C.; Wm. Henderson, Toronto; H. E. Houze, Atwood; E. H. Ives, New Hudson, N. Y.; C. B. Kern, Shimerville, Pa.; F. B. Lambie, Brussels; W. J. Lee, Vasey; C. A. Leslie, Belvidere, Neb.; E. W. MacKay, Sawyer; Wm. J. McLevey, Florence; Alexander MacMillan, Sonya; R. T. Mack, South Bend, Ind.; H. S. Maxwell, Salina, Kansas; John H. Meany, Athol, Mass.; F. C. Miller, Dubuque, Iowa; F. D. Monell, Waterbury, Conn.; Vicente Ocampo, Buenos Ayres, Argentina; Wm. O. Oliver, Marinette, Wis.; Byron A. Owens, Massillon, Ohio; J. H. Part, Leigh, Lancashire, England; H. Pomfret, Burnley, Lancashire, England; M. Porterfield, Clifford; T. F. Quinn, jun., North Adams, Mass.; A. A. Reinhardt, Apple Creek, Ohio; L. J. Richards, Granville, Ohio; Geo. W. Rogers, Rochester, N. Y.; J. C. Rusk, Clifford; W. N. Russell, Buffalo, N. Y.; Fred. W. Schweinler, Jefferson, Wis.; R. A. Sibley, Waltham, Mass.; B. C. Smith, Brigden; Wm. A. W. Sparling, Toronto; E. R. Struve, Parsons, Kansas; Thomas O. Sykes, Sykesville, Pa.; H. J. Taylor, Guelph; L. H. Thurston, Parsons, Kansas; G. R. Tomlinson, Orion, Ill.; C. Van Vlaanderen, Paterson, New Jersey; W. M. Walker, Brooklyn, N. Y.; George C. Webb, Akron, Ohio; Guy N. Welch, Groton, Vt.; H. L. Williams, Granville, Ohio; T. W. Wilson, Atwood.

CORRESPONDENCE.

VETERINARIANS WHO ARE NOT SANITARIANS.

QUINCY, MASS., March 30, 1903.

Editors American Veterinary Review:

DEAR SIRs:—The foot-and-mouth epidemic about here brings forcibly to the front the differences in veterinarians in care, caution, and cleanliness. Many of the progressive inspectors wore rubber boots or shoes, rubber gloves and rubber coat, and used modern antiseptic precautions against distributing infection; other inspectors did not do so. In one virulent stable one inspector took antiseptic precautions, while his assistant who held the heads took no precautions. Why couldn't his shoes and clothes spread the disease at the next place which they passed as free of disease, but in a little over a week showed the disease? They may after this, for the papers said that the Secretary of Agriculture would require it.

What has a man gained from his college education who would not use these precautions without being told?

Is not a dirty veterinarian in such a place worse than a clean layman? Many people associate veterinarians with uncleanness, but I think that idea is fast disappearing. Surely our progressive men are not such. Many losers of stock claim that the inspectors brought the disease to their places. Could they make that claim if they had seen the inspector don his regiments and wash up, or even had they seen him wash his hands before running them about their cows' mouths?

These inspectors I speak of are not Dr. Salmon's men, but our local men, such as you'll find in any place but a veterinary meeting; for there they might increase their knowledge, although they cannot believe this fact, but fear they might impart some of their secrets.

I once spayed a bitch that had had two difficult parturitions. After removing the pups by Cæsarian section we spayed her. A medical doctor gave ether, a second looked on. One remarked: "I saw that bitch spayed two years ago, with no antiseptics, and the veterinarian ran his dirty fingers about the abdominal cavity for a time, cut off some omentum and sewed her up. I asked him what should be his future line of treatment; he replied, 'Oh, give her a kick in the — and turn her loose in a snow-drift.'" I might say, this same veterinarian is an inspector.

People here will swear that the inspectors did not even wash

their hands before or after feeling the diseased cattle's mouths; then trace them to a neighbor's, who will swear to the same effect.

Friedberger and Fröhner enumerate modes of infections and place veterinarians near the end of their list. Evidently these authors never visited this State, where any charlatan may practice. We have no registration of veterinarians, hence they do not have to pass examination before practicing. This will explain my remark that a clean layman is to be preferred to a dirty veterinarian in this inspection, and also urge for registration of veterinarians.

We have seen quite a number of articles in the REVIEW where veterinarians are urged to cleanliness about work and person, both for their own uplifting and for that of their profession. Here is another urge. Yours truly,

FRANCIS ABELE, JR.

SUBCUTANEOUS INJECTIONS OF SALINE SOLUTIONS.

PASSAIC, N. J., April 14th, 1903.

Editors American Veterinary Review:

DEAR SIRS:—I notice in this month's REVIEW, under "Reports of Cases," that A. S. Brodie, V. S., of Cedar Falls, Iowa, reports his experience with five cases of azoturia, which he treated with subcutaneous injections of sodium chloride. The Doctor states that he dissolved sixteen drams of sodium chloride in three gallons of water and gave it subcutaneously, and further that in the second case he repeated the injection in twenty-four hours.

It appeared to me as a very large quantity to inject at one time. I would like to ask the Doctor at what part of the body he makes his injection, and what kind of a syringe he uses (in fact, the details of the *modus operandi*). Also, what his theory is regarding a saline solution in azoturia. If a saline injection is used, would it not be better to inject it directly into the jugular vein? Very truly yours, J. PAYNE LOWE.

THE latest proposal in the packing line is that of a Chicago man who says he is going to erect a plant in Kansas City for the exclusive handling of Angora goats. The name of the corporation which is to carry on the business will be the Angora Lactic Food and Packing Co. and it will be chartered under the laws of Texas.

SOCIETY MEETINGS.

MICHIGAN STATE VETERINARY MEDICAL ASSOCIATION.

The twenty-first meeting convened in the parlors of the Hudson House, Lansing, Mich., February 3, 1903, at 2 o'clock P. M. The meeting was called to order by the President, Dr. H. F. Palmer, of Detroit. Members present:—Drs. Brenton, Black, Byers, Campbell, Cummings, Drury, Deadman (J. F.), Deadman (A.), Dunphy, Ervin, Giffin, Gohn, Harrison, Hamilton, Joy, Jopling, Moody, McQueen (E. D.), McDonald, Palmer, Sutherland (D. G.), Sutherland (G. N.), Rose, Whitney, Waddle, Ward, Scott, Russel, Brodie, Veldhines, Wells (F. C.), Waldron, Smith, Muir, Elzinger, Farmer, Jones, Book, Bellenger, Gibson, Manning. Honorary members present:—Drs. Hawkins, Baker, and Prof. Marshall. Visitors present were Drs. J. S. Donald, H. W. Nobles, F. Lare, W. E. McCandlass, C. E. Slaght, D. King Smith.

President Palmer then delivered the annual address, as follows:

"Ladies and Gentlemen:

"Following the custom of all similar bodies, it now becomes my pleasant duty to say a few words to you upon the opening of the twenty-first session of the Michigan State Veterinary Medical Association.

"The past year has been one of universal uplift along all veterinary lines. The general prosperity of the country, the advancement in prices and demand for live stock and the better qualifications of the veterinarian to meet the emergency demands, each has had its share in the betterment of the veterinarian's condition.

"Probably there never was a greater demand for veterinarians than to-day. The electric cars, the wheels and, lastly, the automobiles, have each in a characteristic cartoon way put the horse and its co-partner, the veterinarian, away down in the back seat; but, despite all of these depressing influences, the country is using every available veterinarian. Not a single individual who has successfully passed the civil service examination as inspector but has received an appointment before another examination was scheduled. What profession can show a better demand?

"Along the lines of our own State Society I think we can

see the word prosperity emblazoned thereon. To-day we are an unbroken chain. Not one link has been slipped out during the past year by the great garner, death. Harmony prevails. Not one single instance has arisen to mar the effect of a calm and peaceful deliberation of those questions concerning our best welfare. In a political way not a single recommendation of this society has been turned down. And right here let me digress a little and offer a word of commendation to the Chief Executive of our State. I believe each of us regardless of our political affiliations feels a warm spot in our heart for Gov. Bliss in acknowledgment of the consideration that we as veterinarians have received at his hand. Twice during the year he has been called upon to name a member of the State Board of Veterinary Examiners, and each time named a member of this organization. Every appointment made by him in the past has been a member of our State Society, and I was greatly rejoiced to know that nearly every member of our society gave him their support last fall, and to-day we feel we have his hearty support in the uplift of the veterinary profession.

"Not only our society but veterinary work all along the line in our country has been in a prosperous way. The Bureau of Animal Industry has recently shown to the country what a little organized effort can do. The dreaded foot-and-mouth disease has again made its appearance within our confines, but by prompt and efficient work of the inspectors, guided by their chief, D. E. Salmon, hardly a vestige of the dread disease is now (even in this short space of time) to be found. Can we count the cost in the stamping out of this dread malady? Can we realize what it would have meant to the live-stock industry of this country if this disease had once obtained a foothold in our western ranges? In the language of Jerry Simpson, the Bureau of Animal Industry has once, if never before, done something for which our country should be truly grateful. I also desire to mention the work that has been accomplished by our brethren across the water, and also carried on in quite an extensive way by Dr. Pearson, State Veterinarian for Pennsylvania. I refer to the immunization of cattle against tubercular infection. With this dread disease, that carries away about one-seventh of our population, and despite the words of the renowned Koch and the accepted belief that bovine and human tuberculosis are one and the same disease. Anything that will lessen this disease will be hailed as a boon to our population. We cannot help but feel that Dr. Pearson is on the right track. Immunity against an-

thrax, blackleg and Texas fever is now such an important factor in our commercial world, we can but hail with delight the semblance of success in this new line of immunity.

"During the past year frequent cases have been brought to my notice of those who, though unregistered and not qualified to be registered, were boldly displaying their names and titles in an attractive manner. In some of these same cases requests have come for me as Secretary of the Board to lawfully proceed against these offenders. In each case I have replied that I had no more power to proceed than they. Anyone knowing the facts can make complaint to the prosecuting attorney of the county in which they reside and he takes it upon behalf of the State as being a violation of State law. Some State associations in their annual meetings have appointed what they call a prosecuting committee, who take all such cases in hand, and with the financial aid given by the society, can proceed against all such offenders. If we are successful in getting more and better legislation, I would recommend that such a committee be made a part of this organization and be given power to act in such cases. One or two vigorous prosecutions successfully carried out will have a wholesome effect on our quack population.

"In these days of experimental and research work, the veterinarian finds much information of practical value in the bulletins and other publications of the Department of Agriculture and the State experimental stations. The majority of these publications can be had for the asking. I would recommend that our Committee on Intelligence and Education be instructed to make it a part of their duty to secure sufficient numbers of all available bulletins of interest to the veterinarian and bring them to the meeting each year for distribution among the members. Of necessity, then, this committee would have to keep in touch with all stations issuing free bulletins, and when one of interest was sent out, a request could be made for a sufficient number to supply all.

"Veterinary Legislation.—Each year of late, our society has had a bill before its sessions to discuss its merits or demerits, and this year is no exception. Your Legislation Committee has spent much time and pains in the preparation of a bill that will be presented to you for acceptance or rejection. We feel that this year of all years we are in the best shape to ask for an amendment to our present bill. Nearly every member of this organization has had this on his mind during the past year and when the politician was approached a promise was secured from

him before his election and in some cases even before nomination. This, coupled with the fact that we have a chief executive who is favorable to our interests, makes it seem a most opportune time to strike for better legislation along veterinary lines.

"During the past year the question has often arisen regarding the eligibility of graduates of a certain veterinary college located in our State to registration under the State Board of Veterinary Examiners. From the first organization of this board until such a time as the majority of its members were members of this society, these graduates were placed on a level with graduates of any reputable veterinary school. After our society gained the majority vote on the Board, then we failed to recognize those graduates, claiming the school did not live up to original provisions of its charter. In our stand we appealed to the Attorney General, but found that office and its force apparently guided by home and brotherly feeling, and he advised and recommended us to register said graduates. Not caring to have to believe the Attorney General on this stand, an appeal was made to the Superintendent of Public Instruction for a general investigation of said school and its methods of working. Unfortunately this has been more of a personal interview than a rigid investigation, and we are now face to face with a proposition to register such graduates, and I fear it will have to be done despite all of our work along that line. This being the case, from time to time some of her graduates may apply for admission to our society. If such do knock for admission, I would recommend that each one be critically looked over and see that we get a man who is in sympathy with us and not one who will antagonize us.

"And, now, in conclusion, I can but say a few words commendatory of those men in our society who have so faithfully worked for the passage of a bill for better legislation. Not only have they taken the time from their own personal business to help out on these matters, but money has been freely given in order to get an appropriate bill passed. And the least that we can do is to heartily support the Legislation Committee in their grand efforts. Let us give the time of this meeting largely to the discussion of this one subject, and may we here at this time so formulate and so put in action a movement, the outcome of which will be a law properly protecting the veterinarian in his honest work of alleviating the sufferings of the live stock of this great commonwealth."

After the President's address, the proceedings of the previous meeting were read and approved.

The following applications for membership were referred to the Executive Committee: Dr. Chas. C. Slaght, Chicago Veterinary College; Dr. Francis Lau, Nashville, Indianapolis College; H. Wynn Nobles, Hastings, Ontario Veterinary College; W. E. McCandless, Capac, Ontario Veterinary College; J. S. Donald, West Bay City, Ontario Veterinary College; M. M. Coxe, Maryville, Ontario Veterinary College; R. C. Rolls, Eaton Rapids, Ontario Veterinary College. The committee reported favorable on Drs. Donald, Slaght, Lau, Nobles, and McCandless, and recommended that the applications of Drs. Rolls and Coxe be held over for one year, as their applications were not accompanied by the required fee. Upon motion the report of committee was adopted. The President declared the five first mentioned members of this body.

The Secretary read a number of letters from members, which on motion were placed on file.

Dr. J. Hawkins spoke at this time very feelingly of the honor the Association conferred upon him at the last meeting in making him an honorary life member of the Association. He spoke of his attendance at all meetings and stated that while he was living in the State he never was absent from a meeting. He said that his heart had always been with the Association from the time in 1883 when it made its modest beginning to the present time. He concluded with the remark that he never had anything occur that pleased him as did the act making him a life member of the Association, and, while he did not expect to be present at many more of our meetings, his heart would always be here. Applause. Dr. Palmer here referred to a matter that had been brought to his notice, regarding his connection with the *Michigan Farmer* as veterinary advisor. He said he was not aware until his attention was called to it that he was violating our Code of Ethics, and stated that if it was the wish of the Association he would withdraw from the position. Considerable discussion was brought out, the drift of which was to leave the matter to Dr. Palmer, with the understanding that the Code must stand.

The Secretary's report was read and showed the business of the Association to be in a prosperous condition, there being \$116.16 balance on hand.

Treasurer's report read and referred to Committee on Finance, who found everything O. K.

The chairman of the Committee on Intelligence and Education made a very full report and dwelt particularly upon the recent outbreak of foot-and-mouth disease. His report was very interesting, inasmuch as he gave much inside history of the incident. On motion report of the Committee was accepted and filed.

Moved and supported that the thanks of this Association be extended to Senator Holmes for his assistance in procuring the appointment of C. A. Waldron as member of the State Veterinary Board. Carried unanimously.

Moved and supported that this body recommend for reappointment as State Veterinarian Dr. Frank C. Wells and that a committee be appointed to wait upon Governor Bliss with a copy of this resolution. Carried without a dissenting vote. The President named as this committee Drs. Sutherland, Black and Giffin.

Dr. W. A. Giffin tendered his resignation, which was reluctantly accepted.

Regular order of business was suspended for the election of officers.

The following officers were elected by acclamation :

President—H. M. Gohn, St. Johns.

First Vice-President—G. W. Dunphy, Quincy.

Second Vice-President—H. S. Smith, Albion.

Third Vice-President—J. Harrison, Maple Rapids.

Secretary-Treasurer—J. Black, Richmond.

Directors—J. C. Whitney, R. Muir, D. G. Sutherland, Wm. Jopling, W. Irvin, C. A. Waldron.

Upon motion the meeting was adjourned until 8.30 o'clock, Feb. 4th.

Feb. 4th, 1903, 9.15 A. M.—Meeting called to order by President H. F. Palmer. Dr. Giffin being absent on committee work, Dr. Wm. Jopling was appointed Secretary *pro tem*.

Dr. Palmer in opening called attention to the veterinary bulletins in relation to the work of the Committee on Diseases.

Dr. F. C. Wells, State Veterinarian, reported the following communicable diseases at present in the State: Glanders, tuberculosis, symptomatic anthrax, malignant catarrhal fever, and *maladie-du-coit*.

Dr. Hal. L. Ballenger referred to venereal diseases in stallions.

Dr. H. M. Gohn stated the need of coöperation of members of the Association in collecting material for the report of the

Committee on Diseases. He suggested that action should be taken in regard to control of rabies. He recommended that the Committee on Diseases decide upon what line of investigation they wish to take up. Also that an appropriation should be made to defray expenses in the way of postage, printing, etc.

Dr. Wells asked the members if they would like the report of the Live Stock Sanitary Commission sent them.

Prof. Chas. H. Marshall read a paper upon some investigations he was conducting regarding pathogenic germs found in drinking water. It was a very interesting paper, and the Professor's work along this line is very much appreciated.

Dr. Wells read bills amending the present live-stock sanitary law. The bill as amended will do away with the Live Stock Sanitary Commission and put that work in the hands of the State Veterinarian, who is to receive \$2000 per year. Dr. Baker, Secretary of the State Board of Health, made many excellent suggestions regarding the amendment, which were inserted. Among the many improvements he spoke of was one requiring local boards of health to report to the State Board as well as the State Veterinarian any outbreak of a suspicious character, and that the State Veterinarian make an annual report instead of biennial. The bill as amended was referred to the Committee on Legislation.

Dr. Giffin read a bill regulating the practice of veterinary science. This bill if passed will neither recognize nor register anyone after 1904 (May) unless a graduate of a three-year school and makes it illegal for any one not licensed to practice after the above date. This bill was referred to the Committee on Legislation. Dr. Wells also read a bill on meat and milk inspection, which originated in the State Board of Health, which was referred to the Committee on Legislation.

Dr. Black read a paper upon "Hæmorrhagic Septicæmia,"* which was followed by a very interesting talk on the same subject by Dr. Jopling. Dr. Dunphy advised being careful in diagnosing until bacteriologists have found the germ.

Dr. Giffin at this time made a special report for the Executive Committee, reporting favorably upon the names of F. L. Baldock and John F. Cline, and as there was some opposition to the name of P. Hasseltine, it was decided to delay action on his application in order to give the applicant a personal hearing.

* Will be published in an early number of the REVIEW.

Report upon motion was adopted, and Drs. Baldock and Cline were elected to membership.

Dr. Brenton presented his experience in the use of trikresol solution as an injection into the mammary gland instead of potassium iodide, and reported very satisfactory results.†

Dr. Jas. Harrison read a paper in which he described a very mysterious case of apparent dropsy which left a permanent tumor very large upon the sheath and belly.* The members of the Association will be anxious to hear of the final disposition of this peculiar case.

Dr. J. J. Joy read a paper on "Laminitis," which was very useful in suggesting the proper use of the foot after an attack.

Dr. Ballenger read a paper entitled "Protrusion of the Os Uteri before Parturition, with Surgical Treatment."

Dr. Muir's paper upon "A Few Interesting Cases,"* was read by his partner, Dr. Elsinger, and gave a good description of some of those unavoidable cases that all practitioners occasionally see.

Dr. Palmer's paper on "Rabies" concluded the reading of the papers, which were perhaps the best assortment we have had at any meeting.

Dr. Hawkins, discussing Dr. Muir's paper, spoke of a case of spontaneous fracture of the femur occurring in his practice, which he said was, in his opinion, due to osteoporosis, and suggested the case of Dr. Muir's may have been due to the same cause.

Dr. Brenton exhibited a new instrument for dressing teeth, which created much interest.

Dr. H. M. Gohn, President, named the following Committees:
Intelligence and Education—Drs. Wm. Jopling, J. Drury, R. W. McDonald.

Diseases—Drs. H. F. Palmer, R. Muir, J. J. Walkington, Prof. C. E. Marshall.

Finance—Drs. S. Brenton, Geo. C. Moody, J. J. Joy.

Legislation—Drs. F. C. Wells, W. A. Giffin, D. G. Sutherland, Geo. W. Dunphy, J. Black.

Dr. P. Hasseltine came in just before adjournment to get his hearing before the Executive Committee, but, owing to a number of the committee having gone home, it was thought best to defer until full committee meeting. J. BLACK, *Secretary*.

*See AMERICAN VETERINARY REVIEW, Vol. XXVI, No. 12, page 1124.

† Will be published in an early number of the REVIEW.

The annual banquet of the M. S. V. M. A. was held in the Hudson House on the evening of Feb. 3d, 1903. Ladies present: Mrs. Brenton, Mrs. Giffin, Mrs. Campbell, Mrs. Whitney, Mrs. Deadman and Mrs. McDonald. Governor Bliss was present on this occasion and spoke in a complimentary way of the Association. Dr. S. Brenton, toastmaster. Toasts responded to: "The Veterinary Profession in its Relation to Public Health," Dr. G. W. Dunphy; "Michigan State Veterinary Medical Association," J. Black; "Our Legislation," Gov. Bliss; "Our Officers," H. F. Palmer; "Our Visitors," Dr. D. King Smith; "The Ladies," H. S. Smith; "The Veterinarian in Politics," F. C. Wells.

MASSACHUSETTS VETERINARY ASSOCIATION.

The regular monthly meeting was held at the Boston Veterinary Hospital, Wednesday evening, Sept. 24. Members present: Drs. Beckett, Babbitt, Emerson, Harrington, Lewis, McLaughlin, Pierce, Playdon, Rogers, Winchester and Winslow. The death of Dr. J. M. Parker in South Africa was announced. It was voted that Dr. Winchester be appointed a committee of one to draw up resolutions on the death of Dr. J. M. Parker to be forwarded to his parents.

An informal talk of the meeting of the American Veterinary Association was then given by Drs. Winchester and Pierce.

E. T. HARRINGTON, *Secretary*.

*

The regular monthly meeting was held Wednesday evening, Oct. 22, at the Boston Veterinary Hospital. Members present: Drs. Beckett, Babbitt, Howard, Emerson, Winchester, Lewis and Wallingford.

It was voted that the Association take up for discussion at its next meeting the enforcement of the law relative to State veterinary work.

Dr. Winchester exhibited and demonstrated the use of an instrument for spreading horses' feet. Meeting then adjourned.

E. C. BECKETT, *Secretary pro tem*.

*

The regular monthly meeting was held at the Boston Veterinary Hospital, Wednesday evening, Nov. 26. Members present: Drs. Beckett, Babbitt, Dyer, Frothingham, Harrington, Howard, La Baw, Lewis, McLaughlin, Peters, Pierce, Playdon, Rogers, Riorden and Winchester. Visitors: Drs. Whitz, Babson and Robinson, of Westerly, R. I.

The following resolutions were presented by Dr. Winchester :

"WHEREAS, It has come to the notice of the Massachusetts Veterinary Association an order issued by the Chief of the Cattle Bureau, under date of Oct. 1st, 1902, that in the future cattle shipped to the quarantine stations at Brighton, Watertown and Somerville will be held and tested with tuberculin free of expense to the owner by the agent of the Cattle Bureau ;

"WHEREAS, It has been demonstrated in the past when similar methods were in vogue they were impracticable ;

"WHEREAS, Those cattle that react to the tuberculin test are allowed to be returned by the owner to the State from which they came ; and,

"WHEREAS, The Chief of the Cattle Bureau has decreed that those animals that have reacted to the tuberculin test must not be retested for the Massachusetts market ;

"WHEREAS, It appears in the above order that veterinarians (with the exception of the Cattle Commissioners) are alone recognized as competent to test cattle with tuberculin in the State of New Hampshire ;

"WHEREAS, It has come to our knowledge that the Chief appoints as the agent of the Cattle Bureau to test all cattle coming to the quarantine stations at Brighton, Watertown and Somerville, a man without veterinary education ; be it

"*Resolved*, By the Massachusetts Veterinary Association, in regular meeting assembled, that in our opinion portions of the order are not practicable and will react to the detriment of the State of Massachusetts ; be it further

"*Resolved*, That the appointing of a man as agent of the Cattle Bureau to have charge of the quarantine stations without a veterinary education is detrimental not only to the State, but it directly reflects against the veterinary profession in the State of Massachusetts."

The reading of the resolutions was followed by a general discussion, indulged in by all members present, after which it was voted that the acceptance of the resolutions be laid over until the January meeting.

This was followed by a demonstration of the operation of peroneo-phalangeal tenotomy by Dr. J. F. Winchester, assisted by Dr. C. H. Playdon. The subject of the operation had been successfully operated upon in one leg.

A vote of thanks was tendered both gentlemen by the Association for their kindness in providing a clinic.

It was voted that the regular monthly meeting be held the third instead of the fourth Wednesday of December.

The following communication was received from the Harvard Alumni Association :

"That the council of this Association sitting with a committee of the Massachusetts Veterinary Association (if that Association sees fit to appoint a committee) draw up a bill and have it presented to the Legislature of Massachusetts requiring the registration of veterinarians." After a general discussion of the matter, it was decided that the appointment of a committee was not necessary ; that the matter could be brought before the Legislative Committee by the Committee of the Alumni Association, and when the matter came up for a hearing this Association could lend its aid to further the matter.

Meeting then adjourned.

E. T. HARRINGTON, *Secretary*.

* * *

The regular monthly meeting was held at the Boston Veterinary Hospital, Wednesday evening, Dec. 17, at 7.30 P. M. Members present : Drs. Beckett, Burr, Babbitt, Bunker, Emerson, Frothingham, Harrington, Howard, McLaughlin, Peters, Peterson, Pierce, Playdon, Rogers, Riorden and Winchester.

On motion of Dr. Winchester, it was voted to insert in the records that the reason of postponement of action on resolutions was on account of the December meeting coming on Christmas eve.

There was a general discussion of the bill to be presented to the legislature regulating practice of veterinary medicine which was read by Dr. Frothingham.

Voted that Dr. Frothingham be appointed to confer with the medical board in regard to having our board associated with them.

Moved by Dr. Winchester that resolutions presented at last meeting be reconsidered. Not carried. Voted to hold our next meeting at the Harvard Medical School at which Dr. Frothingham is to read two papers, viz. : "Tumor-like Lesions of Lungs due to a Blastomyces," and "Foot-and-Mouth Disease from a Scientific Standpoint."

Meeting then adjourned.

E. C. BECKETT, *Secretary pro tem*.

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The regular monthly meeting was held at the Harvard Medi-

cal School, Wednesday evening, January 28, at eight o'clock, Members present : Drs. Babbitt, Beckett, Burr, Bunker, Clark, Draper, Emerson, Frothingham, Harrington, Howard, La Baw, Lewis, McLaughlin, Osgood, Paige, Peters, Pierce, Rogers, Winchester, Winslow. Visitors : Dr. Bailey, of Maine ; Dr. Browell, of Brockton.

It was voted that the resolutions presented by Dr. Winchester at the November meeting be taken from the table. Dr. Winchester went into explanation in detail of the resolutions presented. He did not think that cattle on arrival at quarantine station were in condition to be immediately tested with tuberculin, as after confinement in cars animals might be suffering from subacute laminitis, or rutting period, etc., which would interfere with its action.

Dr. Winchester did not think the order issued by the Chief of the Cattle Bureau gave the educated veterinarian proper recognition in appointing a layman at Brighton.

Dr. Frothingham thought a man who was not a veterinarian but who had had a great experience testing cattle would be better qualified to test cattle than a regular veterinarian without experience.

Dr. Osgood thought resolutions called for a vote of censure against one of our members. It seemed to be the policy of the State of Massachusetts to appoint agriculturists on cattle commissions. In the last six or seven years the profession had succeeded in getting a regular veterinarian appointed at its head. He thought the grange interests had probably some influence in appointing Mr. Dennen, to which it was necessary to accede in order to have a regular veterinarian appointed at its head. He did not think we should pass a vote of censure on one of our members in a matter which was possibly out of his control.

Dr. Howard thought it was a question as to whether the Massachusetts Veterinary Association had the courage to stand up to a matter of principle, and not a matter of politics or personality.

Dr. Peters thought the resolutions were a criticism of his actions. He thought he had acted for the best. He did not start into his new position hampered or trammelled by any pledge. He appointed Mr. Dennen because he was on the Cattle Commission a number of years and had control of yards at Brighton, Somerville and Watertown. If he had to appoint a new man he would appoint a regular veterinarian. Thinks Mr. Dennen

is a thoroughly trained man ; also, that it is practical to test cattle on arrival.

Dr. Winchester : Cattle reacting were held back a week and retested. Cattle reacting to tuberculin to-day would not react again for several months. Did not think resolutions were at all personal. Asked how can Mr. Dennen be an expert when he cannot recognize other diseases.

Dr. Paige thought resolutions consisted of two parts—the detail of work done and the manipulation of Cattle Bureau, the second part a serious matter to veterinary surgeons in the matter of principle. He thought it might be a matter of policy in appointing Mr. Dennen at the time ; at the present time it might be different. He knew many farmers thought it unfair for Mr. Dennen to draw pay from the State and enter into competition with them in the cattle business. He wished to go on record as opposing the appointment of Mr. Dennen. If the matter of opposing appointment of Mr. Dennen would react to the detriment of the veterinary profession it would be better for us to lose our connection with the Cattle Commission.

Dr. Burr thought the resolutions covered more than a matter of principle.

Dr. Beckett thought we sometimes had to sidetrack principle for policy, as in getting our bill for registration through the legislature it was necessary to include non-graduates who had been in business a certain length of time.

Dr. Peters did not know as the time was yet ripe for appointing only veterinarians on the Board of Agriculture.

Dr. Howard offered an amendment that the resolutions should be rewritten. He thought the matter should be referred to a committee.

Dr. Winchester arose to a question of privilege. He thought the matter should be acted upon at this meeting. Dr. Winchester moved that vote on resolutions be by roll-call. Defeated, 10-3.

Dr. Osgood offered the same motion as Dr. Howard's, which was carried, 10-7.

Voted to appoint a committee of five from the floor—Winchester, Howard, Burr, Rogers, Paige.

An application for membership was received from Dr. W. M. Simpson, of Malden, which under the rules was laid over till the next meeting.

Meeting then adjourned.

EDW. T. HARRINGTON, *Secretary*.

The regular monthly meeting was held at the Harvard Medical School, Wednesday evening, Feb. 25, at eight o'clock. Members present : Drs. Beckett, Burr, Babbitt, Clark, Emerson, Frothingham, Howard, Lewis, McLaughlin, Paige, Peters, Pierce, Rogers, Harrington, Winchester, Winslow. Visitors : Drs. Allen, Conway and Boutelle.

Dr. Beckett wished to have inserted in records of last meeting that the order of the Chief of the Cattle Bureau as discussed at the last meeting allowed cattle which had responded to the tuberculin test to be returned to the State from which they came, except Vermont, with the consent of the cattle commissioners of those States.

It was voted to stand for a separate board of registration.

An interesting paper upon "Foot-and-Mouth Disease" was read by Dr. Frothingham, after which there was a general discussion of the subject.

An application for membership was received from Dr. Charles Arthur Boutelle, of Newton Centre. Laid over till next meeting.

Dr. W. M. Simpson, of Malden, was unanimously elected to membership.

The report of Committee on Resolutions was accepted as progressive.

Meeting then adjourned.

EDW. T. HARRINGTON, *Secretary*.

PASSAIC COUNTY VETERINARY MEDICAL ASSOCIATION.

The regular monthly meeting was held at 169 Paterson Street, Paterson, N. J., on Tuesday evening, February 3d, 1903, with Dr. William Herbert Lowe, President, in the chair.

On roll-call the following members answered to their names : —Drs. William J. Reagan, M. A. Pierce, T. J. Cooper, Wm. H. H. Doty, David Machan, John H. Degraw, Wm. Herbert Lowe, Paterson ; William C. Berry, Haskell ; J. Payne Lowe, Passaic.

Dr. David Machan was chosen Secretary *pro tem*.

The minutes of the last regular meeting were read and approved.

Dr. Cooper moved that the Association provide for a substitute for the relief of any member when needing the services of the same. This motion was discussed *pro* and *con*. Several members were of the opinion that this was a matter that could

be best arranged by members themselves as occasion required. Motion was finally carried. Dr. Cooper then moved that the Chair appoint a committee of three on the substitute proposition to report at the next meeting. The Chair appointed as such committee, Drs. Cooper, Reagan and Doty.

Dr. J. Payne Lowe spoke in favor of the Association paying the expense of sending specimens to the State Laboratory for bacteriological or other examination when the Association received the benefit of such examination. Upon motion of Dr. Reagan, the Association authorized such expense to be paid out of the treasury when in the judgment of the President the case was of such a nature or character as to warrant the same, but such expense was only to be allowed upon the written order of the President.

The Treasurer, Dr. M. A. Pierce, reported all bills paid and \$13 balance in the treasury.

The delegates to the annual meeting of the Veterinary Medical Association of New Jersey, held at Trenton, January 8th, 1903, made the following report:—

"Your delegates would report that the Passaic County Veterinary Medical Association was represented at Trenton by Drs. Pope, J. Payne Lowe, Fredericks and President William Herbert Lowe. The sessions were well attended by leading members of the profession from all parts of the State, by several state officials as well as by a number of prominent veterinarians from neighboring States. Among the visitors from Pennsylvania were Drs. Leonard Pearson, Dean of the Veterinary Department of the University of Pennsylvania, and W. Horace Hoskins, editor of the *Journal of Comparative Medicine and Veterinary Archives*; from New York, Dr. Veranus A. Moore, Professor of Comparative Pathology and Bacteriology at the New York State Veterinary College, Cornell University, Ithaca; and from New York City, Drs. George H. Berns, E. B. Ackerman, Robert Dickson, Robert W. Ellis, James L. Robertson and Roscoe R. Bell, editor of the AMERICAN VETERINARY REVIEW, the three latter being professors in the New York-American Veterinary College, New York University. The morning session was given over to the transaction of routine business, the election of officers and the delivery of the President's address.* There were many salient points in the address. Dr. Lowe recommended the establishment at Trenton of a State Bureau or Commission

* See AMERICAN VETERINARY REVIEW, Vol. XXVI., No. II.

of Animal Industry with a Chief Veterinarian as State Veterinarian. With such an organization the veterinary sanitary work of the State could be more efficiently and economically administered than by a number of separate bureaus working independently without professional directorship, as at present. Dr. Lowe said in his address that a layman or a veterinarian could with just as much propriety attempt to direct the official work of the medical profession in the State as a layman or an M. D. has to undertake to direct the veterinary work of the State. A conference committee was appointed to confer with the officers of the State Board of Health, the State Board of Agriculture, the State Tuberculosis Commission and others concerned, with a view of adopting a plan satisfactory to all concerned, as recommended by the President. As soon as preliminaries are arranged it is proposed to take steps to secure the necessary legislation. The afternoon session was devoted to the reading of papers and discussions. Professor Veranus A. Moore read an excellent paper on 'Etiology and Prevention of Infectious Diseases of Animals,'* illustrated by the stereopticon. A paper on 'The Relation of State Boards of Veterinary Examiners to the Teaching Schools, the Profession and the State,' by Drs. T. B. Rogers and William Herbert Lowe, was read and discussed. Dr. Leonard Pearson gave some valuable data based on experiments made by him on the immunization of cattle against tuberculosis. The Veterinary Medical Association of New Jersey will hold its semi-annual meeting at the United States Animal Quarantine Station at Athenia, on the Newark and Paterson branch of the Erie Railroad and on the Boonton branch of the D. L. & W. R. R., on Thursday, July 9th, 1903, which will give members of the profession an excellent opportunity not only of seeing fine specimens of imported stock, but of learning something of the method and system of inspection and quarantine as conducted by the Federal Government."

The report of the delegates was received, and it was moved and carried by unanimous vote that the Passaic County Veterinary Medical Association approve and endorse the recommendations of President William Herbert Lowe made in his recent address before the Veterinary Medical Association of New Jersey, at Trenton, for the establishment of a State Bureau or Commission of Animal Industry with a Chief Veterinarian as the State Veterinarian of the State of New Jersey, and that a com-

* See AMERICAN VETERINARY REVIEW, Vol. XXVI., No. II.

mittee be appointed by this Association to aid the committee of the State Association in this important undertaking. The Chair appointed as such committee, Drs. Pope, Fredericks and J. Payne Lowe.

The Association learned with regret of the illness of Dr. John Kehoe, and, upon motion of Dr. Machan, Dr. J. Payne Lowe was appointed a committee of one to call upon Dr. Kehoe at his home.

The President appointed Dr. Reagan essayist for the March meeting. The subject of his paper is "Poisoning in the Dog." On motion meeting adjourned at 10.30 P. M.

D. MACHAN, *Secretary pro tem.*

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The regular monthly meeting was held at 169 Paterson Street, Paterson, N. J., on Tuesday evening, March 3d, 1903. The President being absent, his brother, Dr. J. Payne Lowe, was requested to take the chair. He called the meeting to order at the usual hour, and upon roll-call a quorum was declared present. The minutes of the last regular meeting were read and approved. Dr. Cooper reported progress for the committee on substitute. Dr. J. Payne Lowe reported that Dr. Kehoe was much better and out again.

Dr. Cooper raised the question as to whether glanders was on the increase or decrease in this county, which was discussed by the members present, each giving his individual experience.

The members then listened to a most creditable paper on "Poisoning in the Dog,"* by Dr. Reagan. Dr. Reagan was given a vote of thanks, and it was ordered that a typewritten copy of his paper be sent to both veterinary periodicals for publication. Dr. H. K. Berry was appointed essayist for the April meeting. On motion meeting adjourned at 10.30 P. M.

WM. J. FREDERICKS, *Secretary pro tem.*

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The regular monthly meeting was held at the office of Dr. Wm. Herbert Lowe, corner of Paterson and Van Houten Streets, Paterson, N. J., on Tuesday evening, April 7, 1903. The meeting was called to order at the usual hour by First Vice-President Dr. David Machan. The minutes of the March meeting were read and approved. The Committee on Substitute reported progress. Dr. Cooper reported that a certain practitioner was charging less than the schedule rates. On motion, this matter was laid over until the next meeting.

* Will be published in an early number of the REVIEW.

Dr. H. K. Berry, the essayist, being absent, several interesting cases were reported and discussed and the meeting turned out to be an interesting and profitable one. On motion, meeting adjourned at 10.30 P. M.

J. PAYNE LOWE, *Secretary pro tem.*

ALUMNI ASSOCIATION OF THE NEW YORK-AMERICAN VETERINARY COLLEGE.

The regular meeting was held in the College Building, Thursday, April 2, 1903, at 2.30 P. M. The President, Dr. Wm. Herbert Lowe, in the chair. Members present:—Drs. R. W. Ellis, R. F. Meiners, J. F. Winchester, W. Horace Hoskins, W. H. Lowe, Wm. Dougherty, W. C. Miller, J. L. Robertson, F. R. Hanson, T. E. Budd, W. J. Coates, H. D. Gill and Wm. Anderson. The minutes of the previous meeting were read and approved. It was then reported that the annual banquet was to be held in conjunction with the Alumni Associations of the American Veterinary College and the New York College of Veterinary Surgeons at the Hotel Marlborough on that evening at 7 o'clock.

In the absence of the Treasurer, Dr. Miller reported that there was a balance of \$40 in the treasury.

The class of 1903 was admitted to membership to this Association as follows: Drs. W. J. Butler, W. W. Bennett, G. E. Smith, F. Glynn, S. A. Selby, C. E. Willis, F. M. Kettner, M. Smith, C. D. Huxtable, A. Berdan, J. M. Young, F. D. Owens and H. Stark.

There was a discussion on the subject of increasing the membership to make this society a more powerful factor, and to this end, upon motion, the President appointed the following committee representing each school to solicit new membership: Dr. W. C. Miller (Chairman), Dr. H. D. Gill, Dr. R. W. Ellis.

The following officers were elected for the ensuing year:

President—Dr. Wm. Herbert Lowe.

Vice-President—Dr. H. D. Gill.

Secretary—Dr. W. C. Miller.

Under the head of new business, Dr. Hoskins asked for information through the President of the workings of the college for the purpose of aiding and lending the support of the Association to it in whatever way it might be of service. Dr. Lowe referred to Dr. Coates, not knowing the workings of the college, and Dr. Coates suggested that hereafter Dr. Munn, of the Council, be invited to attend the Alumni meeting, where the work-

ings of the Council for the benefit of the college might be learned, Dr. Munn being on the Committee for the Veterinary Department. Dr. Hoskins then put it in the form of a motion that Dr. Munn be notified at a reasonable time of such meetings, inviting him to attend, which was seconded and carried.

A discussion then arose in regard to means for the advancement of the college in regard to new buildings and better facilities for working. Dr. Hoskins then made a motion that the officers and Executive Committees of the Alumni Associations of the A. V. C. and N. Y.-A. V. C. meet jointly some time during the winter to draft resolutions for the same, and to report to the Association at the regular meeting.

President Lowe then appointed the following members to act on the Executive Committee for the following year: Dr. R. W. Ellis (Chairman), Drs. Wm. Anderson, J. W. Fink, T. E. Budd, and W. H. Hoskins. Adjourned.

F. R. HANSON, *Secretary*.

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The annual banquet of the allied associations was held at the Hotel Marlborough, Broadway and 36th Street, on the same evening, and there was quite a large gathering of the alumni, who partook of a splendid dinner. When the refreshments were through with, Dr. Wm. J. Coates, the toastmaster, introduced Dr. John P. Munn, of the University Council, who was slated to respond to the sentiment "Universities." The Doctor is always a welcome guest at veterinary gatherings, because he appreciates their worth and the possibilities of this profession, and his advice and encouragement is gratefully received, for we know that it is sincere, while his long connection with educational institutions, coupled with his sound judgment, make it of value. "Law" was the subject assigned to L. J. Tompkins, LL.M., and he delivered a very interesting and amusing address, citing numerous legal cases where live-stock were the objects of contention. "Professional Hobbies" brought Prof. James L. Robertson to his feet, but he disclaimed his familiarity with such a subject, believing that the only hobby a veterinarian should have was to endeavor to improve our science through individual effort. H. Taylor Cronk, M. D., spoke on "Our Sister Profession," and showed how closely allied it is with our own. "Alumni" was the theme of Dr. W. Horace Hoskins, of Philadelphia, and he paid a glowing tribute to his alma mater, showing that her sons all over the country were giving good accounts of themselves. Wherever movements to advance the interests

of the profession were making, graduates of the old A. V. C. would be found among those who were working hardest for their accomplishment. The toastmaster next called upon Dr. Roscoe R. Bell to respond to "Science," and he spoke of the wonderful growth of that science in which we are most interested, claiming that not one of the advanced sciences could show such progress in the short time it has existed in America; no Old World country could approach the energy thrown into it by the Americans; her schools, her laws, her Bureau of Animal Industry, etc., were fast becoming models for other countries to follow. Dr. Wilfred Lellman spoke to the toast of "Faculty," and did so in a pleasing and comprehensive manner. Then Dr. George G. Van Mater, Professor of Ophthalmology at the N. Y.-A. V. C., who, while practicing as an oculist to the humans, retains a lively interest in the profession which was his first love, responded to the toast of "Ladies," and interspersed his remarks by witty anecdotes and quaint stories. Dr. H. D. Hanson's subject was "Our Alma Mater," to which he paid filial homage. Dr. Wm. Herbert Lowe made a strong appeal in his remarks on "The Alumni of N. Y.-A. V. C." for better facilities for hospital and college buildings, making some pertinent suggestions as to securing endowments for the purpose. Dr. Lester H. Howard, who with Dr. John F. Winchester came up from Boston to pay his annual respects to alma mater, gave a good account of the "Alumni of the A. V. C. in New England," stating that the New England Association would hold its banquet in the "Hub" on the 25th, and extended a cordial invitation to all to be present and join with them. Dr. Winchester was forced to catch the midnight train before his number was reached. A number of impromptu remarks were made by other guests, and the party broke up a little after 12 o'clock, having spent a very pleasant and profitable evening.

THE ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The twenty-first semi-annual meeting of this Association was held in Urbana, February 17th, at Morrow Hall, State Agricultural Building. Meeting was called to order at 10 A. M. Members present:—Drs. W. W. Giles, Gilman; E. J. List, Havana; F. H. Ames, Canton; D. McIntosh, Champaign; T. W. Corkery, Urbana; N. I. Stringer, Watseka; L. C. Tiffany, Springfield; F. C. Grayson, Paxton; C. S. Hayward, Mattoon;

E. L. Quitman, Chicago; G. G. Ratz, Red Buel; F. H. Barr, Pana; W. J. Martin, Kankakee; H. A. Pressler, Fairbury; D. E. Kinsella, Chillicothe; G. B. Jones, Sidell; C. C. Mills, Decatur; A. H. Baker, Chicago; George S. Frye, Naperville.

The minutes of last meeting were read and approved.

The report of the Treasurer showed a balance on hand of \$88.69. The following bills were allowed: For printing 2000 envelopes, \$6; for printing 1000 letter heads, \$4.50; stamps, \$4; express, 60 cents; for printing 500 by-laws and constitutions, \$20; for printing 400 programmes, \$4; Secretary's fees, \$10; total \$49.10.

The following papers were read and discussed: "Gastro-Intestinal Catarrh of the Ox," Dr. F. H. Barr, Pana; "Veterinary Obstetrics," Dr. W. J. Martin, Kankakee; "Fraternalism in Veterinary Science," Dr. T. W. Corkery, Urbana; "Azoturia and its Treatment," Dr. F. H. Ames, Canton; "Analogous Foot-and-Mouth Disease," Dr. C. C. Mills, Decatur; "The Treatment of Tetanus by Excessive Doses of Potassium Bromide," Dr. D. McIntosh, Champaign. Under the last topic, Dr. McIntosh reported the recovery of 23 cases of tetanus, each of which received from three and one-half to *five pounds of potassium bromide* in their drinking water, covering a period of three to five days. He stated that he encouraged the animal to drink excessive amounts of this drug and invariably when he had received three and one-half to five pounds, perfect relaxation of the muscles occurred and recovery took place. There seems no danger in pushing the drug, and he aims to get this amount into the animal in as short a time as possible, usually from two to five days.

It being understood that a bill had been presented to the Legislature amending our present bill so that *registration might again be opened for a period of six months* to those quacks who had not availed themselves of securing a license to practice, the following resolution was presented by the Committee on Legislation and passed:

"*Resolved*, That it is the sense of this Association that we are *strongly opposed* to the passage of ANY amendment to the present Veterinary Bill." It was moved and seconded that the Secretary notify all members and secure their coöperation to defeat the passage of the amendment.

Dr. Andrew Robertson, of Mount Carmel, was elected to membership.

A vote of thanks was given to the Trustees of the Illinois

College; also Dr. McIntosh, for the use of the hall and other courtesies.

Adjourned to meet in Chicago at the call of the President.

W. H. WELCH, *Secretary*.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

Secretary Repp informs us that thus far the following actions have been taken by passenger associations in regard to passenger rates for the Ottawa meeting: The Canadian Pacific Railway, the Grand Trunk Railway, and the Canada Atlantic Railway have granted a special rate of one and one-third fare for the round trip, certificate plan, for 50 or more in attendance, and one and two-thirds fare for 49 or less in attendance. The New England Passenger Association and the Trunk Line Passenger Association have granted a rate of one and one-third fare certificate plan, for 100 or more in attendance, and the Southeastern Passenger Bureau has refused to grant a special rate from its territory. Those attending from this latter territory should purchase a ticket to the nearest point at which certificates are kept in the territory of the Trunk Line Association or the Central Passenger Association, if this latter should grant a special rate, as it is expected to do, and then purchase a ticket from this point to Ottawa and take certificate therefor. It is confidently expected that special rates will later be granted by the Central and the Western Passenger Association and perhaps by the Southwestern from part of its territory at least. Report will be made through the journals as soon as these associations take action. Full information will accompany the programme. This announcement is made so that our members and others may know at the earliest possible moment what to look for in the way of rates, as this will doubtless have an important bearing in deciding the question whether they will attend the meeting or not.

"THE NEW YORK MEDICAL JOURNAL," in a recent issue, editorially considers the prevalence of rabies throughout the country, and believes that, while many reported cases are not genuine, it is dangerously common.

DOG MEAT IN BAVARIA.—It seems that the use of meat has assumed such proportion at Munich and the number of dogs slaughtered is so large that a municipal slaughter-house is to be established for the killing of dogs and the curing of the meat. Generalized tuberculosis has been recently found in one of the canine carcasses.

NEWS AND ITEMS.

DR. HENRY J. LEHRMANN, of Montclair, N. J., is a member of the City Council of that city.

DR. T. B. NEWBY has succeeded John J. Millar as Secretary of the McKillip Veterinary College, Chicago, Ill.

DR. T. E. SMITH, of Jersey City, N. J., is an enthusiastic member of the Hudson County Road Drivers' Association.

DR. HENRY VANDER ROEST, of Newark, N. J., is an enthusiastic member of the Essex County Road Drivers' Association.

DR. WILLIAM SHEPPARD, of Sheepshead Bay, N. Y., has joined the Veterinary Medical Association of New York County.

DR. E. B. ACKERMAN, of Brooklyn, N. Y., acted in the capacity of veterinary judge at the recent Lakewood (N. J.) horse show.

DR. J. H. CONOVER was one of the founders of the Flemington Public Library, Flemington, N. J., and takes an active part in the affairs of his town.

VETERINARIAN WILLIAM HEBERT LOWE is Chairman of the Committee on Animal Diseases and Animal Food of the New Jersey Sanitary Association.

DR. JAMES E. ELLIS, a recent graduate of the Kansas City Veterinary College, accepted a temporary appointment in the meat inspection service at Kansas City.

"HOOK WORMS IN CATTLE" is the title of Bulletin No. 36 of the Florida Agricultural Experiment Station, issued April 1st, by Dr. Charles F. Dawson, station veterinarian.

J. H. MCNEALL, V. M. D., who has for a year or more been acting dean of the Veterinary Department of the Iowa Agricultural College, has been appointed to the full deanship.

DR. J. C. CALLENDER, Parkersburg, W. Va., has just completed and occupied a modern veterinary hospital, of brick, and with all the conveniences of the best of such institutions.

DR. C. E. DORNHEIM has removed from Pomfret Centre, Conn., to 11 Brewer Street, New London, in the same State, and has found the change a great improvement from a business standpoint.

THE SAN FRANCISCO VETERINARY COLLEGE advertises a full three-year course in this issue of the REVIEW, but, unlike any other veterinary school, the course extends over the summer and early fall months.

ARMY VETERINARIANS are invited to contribute articles of interest to the "Army Veterinary Department" of the REVIEW.

This can be made of immense value to the service, and the opportunity should not be lost.

RECENTLY a dealer took a contract in Portland, Ore., to supply the United States Government with upwards of 100 cavalry horses at \$117 per head. Some years ago a similar contract is alleged to have been filled at \$55.

DR. E. M. RANCK, formerly engaged in experimental work for the H. K. Mulford Company, of Philadelphia, has removed to Natchez, Miss., and engaged in private practice, and we are pleased to hear that his prospects are bright.

NEW VETERINARY COLLEGE.—The government of India will open a new veterinary school in the presidency of Madras. The hospital will get its principal supply of clinical material through the Society for the Prevention of Cruelty to Animals.

THE MANITOBA VETERINARY ASSOCIATION has issued a pamphlet containing the full minutes of its last annual meeting, which we have received from Secretary Torrance. A synopsis of the proceedings was published in a recent number of the REVIEW.

DR. J. F. DEVINE, who located at Goshen, N. Y., about two years ago, has built up a lucrative practice and an enviable reputation in this famous "horse centre." He has found it necessary to employ an assistant, and is preparing to construct an infirmary.

It is said that Mr. T. W. Lawson intends to build the fastest track in the world on Dreamwold farm. It is to be built of a new substance altogether instead of the old-fashioned dirt and clay and will be four or five seconds faster than any harness course in existence.

NEW VETERINARY JOURNAL.—The Italian Veterinary Academy of Turin has decided upon the publication of a new monthly journal, exclusively scientific, named *Archivio Scientifico della Reale Societa Nazionale et Academia Veterinaria Italiana*. Quite a big name, is it not?

DR. H. H. GEORGE, a member of the B. A. I. force in Kansas City, has been transferred to Louisville, Ky., and placed in charge of the inspection at that station. Dr. Thomas J. Turner, who has been in charge at this point for a number of years, exchanged places by mutual agreement with Dr. George and goes to Kansas City.

A NEW CATHETER.—Whether it would answer for veterinary practice, it matters little; but anyhow it shows the ingenuity of a thoughtful practitioner. Called to relieve a woman

suffering with retention of urine, and not provided with catheter or any other means to relieve the patient, who was in great pain, the doctor resorted to the use of the stem of a clay smoking pipe, which, after boiling five minutes as an antiseptic measure, allowed him to remove 1500 grammes of urine and give immediate relief to the suffering woman.—(*Journ. de Med. de Paris.*)

\$1,000,000 FOR FILIPINO COWS.—*Manila, April 8.*—Governor Taft has planned for the immediate expenditure of \$1,000,000 of the \$3,000,000 appropriated by Congress for the relief of the impoverished provinces in the purchase and transportation of farm animals, which the recent epidemic of rinderpest almost exterminated. Agriculture has since been practically paralyzed. These animals will be distributed by the provincial officials at cost after they have been made immune at the government farm.

THE LEGISLATURE OF MISSOURI has recently appropriated \$15,000 to apply on a veterinary building for use in experiment station work as well as clinical work, and for purposes of construction. Missouri is the first State to follow the lead of Massachusetts and Minnesota in providing adequate accommodations and equipment for the veterinary department in agricultural college and experiment station work. The Minnesota building cost \$25,000, and it is the evident intent of the Missouri legislature to furnish a building which will cost considerably more than \$15,000.

DR. A. H. DRUCKER, of New York City, was the victim of a most unfortunate and painful accident while in the discharge of his professional duties on March 30. He was in the act of clipping the hair from the rear of the metacarpal region of a horse preparatory to blistering the tendons, and had an attendant holding up the opposite front foot. The horse made a side kick with the hind foot, which struck the doctor midway of the tibial region, making a compound fracture of the tibia and fibula. He is now in the Presbyterian Hospital, and it is said that he will have to remain there for three months.

BEET-SUGAR SYRUP AS A FOOD FOR HORSES.—As a result of several weeks of experimenting, Dr. E. F. Vorhis, of Owego, thinks that beet-sugar syrup is a better and cheaper food for horses than oats. He bought thirty barrels of this syrup, each containing fifty gallons, from the Binghamton Beet Sugar Company. The syrup costs three cents a gallon, if the barrels are returned. This syrup has been fed to the horses of George Crabb, who runs the Owego omnibus and baggage transfer line,

and to those of James Forsyth, a farmer. All of these horses have been able to perform their work satisfactorily, they like the food and it seems to agree with them, as they have kept in better condition than when fed on oats. The syrup is also said to be considerably cheaper than oats.—(*American Cultivator*.)

A NEW ANÆSTHETIC.—The London *Zoöphilist* gives an account of a new anæsthetic that has been discovered by Dr. G. Rolland, director of the dental school and hospital of Bordeaux. Its name is "somnoform." It promises to be a great boon to suffering humanity, and the most perfect mode of ensuring complete anæsthesia for animals. Dr. Rolland has experimented with it more than a hundred times on himself, nearly as many times on his colleague, Mr. Clerc, and has administered it to fifteen hundred patients without an accident.—(*Exchange*.)

HORSES INCREASING IN BOTH NUMBER AND VALUE.—The last report of the Department of Agriculture shows the following very satisfactory state of the horse industry in the United States: In 1902 there were 16,533,224 horses in the country, worth \$968,935,178, an average of \$58.61 a head. In 1903 the number had increased to 16,557,373, worth \$1,030,705,959, being an average of \$62.25, or an increase in value per head of \$3.64. The decadence of the horse must, by all fair reasoning, be postponed yet awhile, if these figures reflect the mind of the American people.

CONTAGIOUS ANIMAL DISEASES IN NEW JERSEY.—Horse owners in Newark, Paterson, Jersey City and other places in New Jersey have recently suffered heavy loss from glanders, which is widely disseminated in the Northern part of the State, and the work of extermination is seriously handicapped for want of a State Bureau or Commission of Animal Industry having control of all dangerous animal diseases, as recommended by President William Herbert Lowe in his recent address before the Veterinary Medical Association of New Jersey at Trenton. There is a strong and determined movement on foot, backed up by live-stock owners, farmers, sanitarians, boards of health, the road drivers association, horsemen generally and veterinarians for the establishment of such a bureau or commission. The day is past for a division of control of this important part of the State service, and that all of this work should be under veterinary directorship is no longer questioned. It is more than probable that the next legislature will place all the vested interests of animal husbandry, industry and products and animal diseases in one bureau or commission, where they properly be-

long, and where they can be managed to the best interests of those most concerned. It would be quite as absurd for a veterinarian to attempt to direct the extermination of contagious diseases among human beings, as it is for an M. D. to undertake to direct veterinary sanitary work.

THE LOSS OF MCGILL.—It will be a serious loss to the country if McGill's faculty of comparative medicine has to be closed up for lack of funds. The expense of it has heretofore been largely borne by its enthusiastic and public-spirited founder, Dr. Duncan McEachran, who brought it up to the standard of being at one time the leading school in America, though, owing to United States rivalry, it cannot make that boast now. As nothing but a veterinary school it is of the utmost importance to Canada, which largely lives by the production of animals and animal products. The value to the country of having competent veterinarians is illustrated by the splendid services rendered the country by Dr. McEachran himself, and that such men are needed everywhere is proved by the fact that so many from the school in Montreal have been drawn off by other countries. As a department of biological science the study of animal life is taking a higher and higher place, and Canada should not be behind in this department of enquiry. It would probably be wise if the faculty is to be reorganized to develop it into a general agricultural department, with a farm. This valuable school has enjoyed a subsidy of two thousand dollars from the Provincial Government. If this could be increased to ten thousand the school, with its connection with McGill, could be made as good as any on the continent and the farmers and breeders of the province could profit accordingly.—(*Montreal Daily Witness, March 24.*)

DR. GEORGE R. WHITE RESIGNS AS MEAT INSPECTOR OF NASHVILLE.—The city Board of Health at its regular meeting Monday afternoon transacted an important piece of business in accepting the resignation of Dr. George White as Live Stock and Meat Inspector and electing Dr. Joseph Plaskett in his stead. The resignation of Dr. White was accepted with the greatest regret and the highest praise was given the retiring officer by the members of the Board. The system of municipal meat inspection has been in vogue here six years, and for five years Dr. White has held the position of meat inspector. He has proved himself in this time not only a highly efficient officer, but a very courageous one, as it took personal courage on more than one occasion to carry out the orders of the Board of

Health concerning the inspection of meat. For the past four years he has operated under the new inspection law, one of the best in the country and which passed the Council only after the hardest sort of fight, many of the butchers vigorously opposing it. This opposition of the butchers, however, has happily disappeared, and they now show an inclination to coöperate with the Board of Health. Dr. White retires to devote all his time to his practice. Dr. White's successor, Dr. Joseph Plaskett, is a graduate of the McGill University, Montreal, Canada, and has been in active practice in Nashville for the past eight years, save one year when he was engaged in transporting animals to South Africa for the British Government. Dr. Plaskett is well qualified for the work and stands in high favor with the veterinary profession of the entire country.—(*Nashville (Tenn.) American, April 8.*)

HORSE FEEDING EXPERIMENTS.—The U. S. Department of Agriculture has just issued Bulletin 125, Office of Experiment Stations, entitled "A Digest of Recent Experiments on Horse Feeding," by C. F. Langworthy, Ph. D. This bulletin is a compilation which summarizes and discusses recent experimental work with horses, especially that carried on at the agricultural experiment stations in the United States. The principles of nutrition with reference to horse feeding are discussed and figures are given showing the composition and digestibility of the coarse and concentrated fodders commonly fed to horses. Experiments are summarized which discuss the comparative value of the different feeding stuffs and special attention is paid to some, like molasses, which are becoming more important than formerly. The comparative merits of different ways of preparing feed are also treated, as well as the proper time of watering and the amount of water required. Something is also said of the energy expended for different kinds of external work and its measurement, the energy required for chewing and digesting food and other forms of internal muscular work, and similar topics. Data are summarized in the form of a table, which shows the nutrients and energy furnished per 1000 pounds, live weight, by the rations fed to American and foreign army horses, cab and bus horses, etc., as well as those supplied to the horses of express companies, fire companies, packing houses, breweries, etc., and the farm horses employed at the different experiment stations, such data having been especially compiled for this bulletin. Average values were calculated, showing the amount of nutrients furnished to horses performing different amounts of

work, which it is believed may serve as a guide in fixing upon suitable rations.

THE ANTIQUITY OF ENTEROCENTESIS.—We find the following quaint description of this very excellent and popular operation in the recent work by H. Caulton Reeks, F. R. C. V. S., entitled "The Common Colics of the Horse": "Again I find mention of it in an old volume I have before me as I write, written by one Leonard Mascall, in the time of good Queen Bess, and published in 1600. These are the words: 'For a horse that is swolne with much wind in his body. Some horse with eating certaine windy meate or such herbs, will be so swolne there will be as though his belly wold burst, and then he will eat no meat, but stand and hang downe his head, ready to fall, and so die, if he have not speedie help. When ye shall see any horse so, the next remedy as I can learne, is: ye shall take a sharp-pointed knife, or bodkin, and arme it so with some stay, that it go not too deep, for piercing his guts. Then strike him therewith through the skin into the body, before the hollow place of his haunch bone, halfe a foote beneath the backe bone, and the winde will come out thereat. Then if ye put a hollow quill therein (or some feather to keep it open awhile), the winde will voyd the better and so heale againe . . . this hath bene proved the best remedie to save your horse or ox.' Vegetius, in the fourth century, advises its adoption, giving minute instructions as to the seat of the operation—in this case the linea alba, four fingers breadth behind the navel—and suggesting the instruments to be used." "Common Colics of the Horse" was reviewed in the March number of the REVIEW. We since have received a copy from Alex. Eger, 34 Van Buren Street, Chicago, Ill., the American publisher of the book. We are decidedly of the opinion that every practicing veterinarian should read it carefully, for, while all may not agree with the author's ideas of treatment, the pathology is most accurately detailed, the result of most intelligent observation and splendid reasoning. The author has a remarkable command of language and places his arguments before his readers in that clear and fascinating style which rivets his attention and interest in the manner of a charming work of fiction, reminding the veterinarian of that old English master, Percivall, whom he frequently quotes. We believe that "The Common Colics of the Horse" is the best *practical* treatise given to the veterinarian in recent years, and the author should be encouraged to attempt something more pretentious by a large sale of his first little volume.

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